This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

The medico-chirurgical review and journal of medical science

UNIVERSITEITSBIBLIOTHEEK GENT

med 970

THE

MEDICO-CHIRURGICAL
REVIEW,
AND
JOURNAL
OF
PRACTICAL MEDICINE.

(NEW SERIES.)

VOLUME THIRTY-TWO,

[1st of OCTOBER, 1839, to 31st of MARCH,]

1840.

VOL. XII. of DECENNIAL SERIES.

EDITED

BY JAMES JOHNSON, M.D.

PHYSICIAN EXTRAORDINARY TO THE LATE KING,

AND

HENRY JAMES JOHNSON, ESQ.

LECTURER ON ANATOMY AT THE SCHOOL OF ST. GEORGE'S HOSPITAL IN
KINNERTON STREET.

LONDON:
PUBLISHED BY S. HIGHLEY, 32, FLEET STREET,
Re-printed in New York, by Mr. Wood.
1840.

BIBLIOTHÈQUE
DE L'UNIVERSITÉ

PRINTED BY F. HAYDEN,
Little College Street, Westminster.

THE

Medico-Chirurgical Review,

No. LXIII.

[No. 23 of a Decennial Series.]

OCTOBER 1, 1839, TO JANUARY 1, 1840.

MEDICO CHIRURGICAL TRANSACTIONS. PUBLISHED BY THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON. Second Series, Volume the Fourth. Octavo, pp. 344, Seven Plates, London, 1839.

THE Volume before us contains twenty-three Communications, most of them possessed of considerable interest. They are as follows:

1. Cases of spasmodic disease accompanying affections of the pericardium; by Richard Bright, M.D. F.R S. physician extraordinary to the Queen, &c.—2, Case of malignant disease occupying one-half of the tongue, to which a ligature was applied from beneath the jaw; by James M. Arnott, surgeon to the Middlesex Hospital.—3. Memoir on tuphlo-enteritis; or inflammation and perforative ulceration of the cæcum, and of the appendix vermiformis cæci; by John Burne, M.D. physician to the Westminster Hospital, lecturer on the practice of medicine, &c.—4, Case of carditis; by Thomas Salter, Esq, F.R.S. of Poole.—5, Notices of the effects of lead upon the system; by James Alderson, M.A. and M.D. physician to the Hull General Infirmary.—6, Notices of the occurrences at the Small-pox Hospital, London, during the year 1838; by George Gregory, M.D. physician to the Small-pox Hospital; communicated by James M. Arnott, Esq.—7, Case of fracture of the coracoid process of the scapula, with partial dislocation of the humerus forwards, &c.; by John F. South, assistant-surgeon to St. Thomas's Hospital.—8, Statistical account of cholera in the Seamen's Hospital, in 1832; by George Budd, M.B. F.R.S. physician to the Seamen's Hospital.—9, Case of aneurismal tumour in the orbit, cured by tying the common carotid artery; by George Busk, surgeon to the Seamen's Hospital, Dreadnought.—10, On the softening of the coagulated fibrine; by George Gulliver, F.R.S. assistant-surgeon of the Royal Regiment of Horse Guards; communicated by Sir James M'Grigor, Bart.—11, Contributions to the pathology of the spinal cord; by William Budd, M.D., communicated by John G. Perry, Esq.—12, Memoirs on some principles of pathology in the nervous system; by Marshall Hall, M.D. F.R.S. L. and E. &c.—13, Case of enlargement from melanoid tumour of the prostate gland, in a child of five years of age; by R. A. Stafford, surgeon to the Marylebone Infirmary.—14, Case of congenital absence of the pericardium; by T. B. Curling, assistant-surgeon to the London Hospital, &c.—15, On a peculiar form of congenital tumour

of the neck; by Cæsar Hawkins, surgeon to St. George's Hospital.—16, Cases of measles occurring oftener than once in the same individuals; by John Webster, M.D. consulting physician to the St. George's and St. James's Dispensary.—17, Remarkable case of dry gangrene occurring in a child three years and seven months old; by Samuel Solly, F.R.S. lecturer on anatomy and physiology, and lecturer on comparative anatomy, at St. Thomas's Hospital.—18, Statistical notices of one hundred and twenty cases of carcinoma uteri, with remarks; by J. C. W. Lever, Esq. communicated by Dr. Clendinning.—19, Case of a girl who voided from the urethra a number of entozootic worms, not hitherto described, with an account of the animals; by T. B. Curling, assistant-surgeon to the London Hospital. —20, Remarks on the acute form of anasarcous tumour of the scrotum; by R. Liston, surgeon to the North London Hospital.—21, An account of a fœtus of seven months, with its placenta partially adherent to a nævus occupying the scalp and dura mater; by Robert Lee, M.D. F.R.S. physician to the British Lying-in Hospital, and lecturer on midwifery at St. George's Hospital.—22, On the structure, physiology, and pathology of the persistent capsular investments and pulp of the tooth; by Alex. Nasmyth, M.R.C.S. —23, On the structure of the corpus luteum; by Robert Lee, MD. F.R.S., &c.

The bill of fare is not so bad. We shall select first the plain and practical dishes.

I.—CASES OF SPASMODIC DISEASE, ACCOMPANYING AFFECTIONS OF THE PERICARDIUM. By RICHARD BRIGHT, M.D. F.R.S.

Dr. Bright relates three cases.

Case 1.—Dr. B. met Mr. Girdwood in consultation, and Dr. Sims on the 5th of April, 1836, on the case of a young man, seventeen years of age, who, about twelve days previously, had begun to complain of general rheumatic symptoms; pains in the limbs, with puffiness and swelling of the wrists, and some other joints, but the symptoms were not strictly those of acute inflammatory rheumatism.

"When all this was rather subsiding, about six days before I was called, peculiar spasmodic symptoms were said to have arisen, which had increased up to the time at which I first saw him, when I found him labouring under the most fully marked symptoms of severe chorea, except that the convulsion was more violent than is almost ever seen in chorea. His head was constantly thrown from one side of the bed to the other. His lips were closed, and opened with a smacking sound, and when desired to put out his tongue it was protruded with all the forced grimace and difficulty observed in chorea. The pulse was weak, and varied from 108 to 120, and there was an occasional sharpness followed by a feebleness and a variation in the beat, which induced us to pay attention to the action of the heart, but led to suspicions, rather than conviction, of that organ being more than functionally implicated in the disease; for we found in the excessive convulsion of the whole muscular system, sufficient to account for a great deal of the disturbance which there was in the circulation, and in the heart's action in particular.

For two or three days our remedies appeared to alleviate his symptoms, so that for a day or two it was not considered necessary to meet in consultation; but the relief was very temporary. The chorea became more severe, and the spasms put on the character of the most violent covulsions. There was likewise some wandering of mind, his apparent incoherence being however certainly increased by the convulsions and contortions of his mouth, which rendered his utterance difficult and his words indistinct. His condition after this became such that some degree of personal restraint was absolutely necessary, and I found that this had been adopted when I renewed my visit. The swellings at the wrist and on one hand again increased; he grew worse; and on the 15th, being about the sixteenth day after the first spasmodic symptoms, he died." 4.

Dissection.—The heart was found adhering to the free pericardium, by the most profuse effusion of firm semitransparent gelatinous fibrin. This was particularly the case about the base of the heart, while towards the apex the effusion was rather an opake serum. The substance of the heart was red, and the semilunar and mitral valves had each a fringe of vegetations, doubtless rather recent, forming a raised irregular line along the auricular side of the mitral, and along the aortal side of the semilunar valve. The lining membrane of the membranous portion of the auricle seemed to have a thin false membrane upon it. The edges of the lung which lay on the pericardium were slightly adherent to that membrane by inflammation. The brain and the abdominal viscera were most carefully and minutely examined, and all found perfectly healthy.

Case 2.—On the 1st of June, 1838, a gentleman, after exposure to cold, was seized with pain in the right side, and swelling, apparently rheumatic, of several of the joints. On the 5th, he sent for Mr. Balderson, who found him labouring under severe pain of the right side passing upwards to the shoulder, with a full pulse. He immediately bled him freely from the arm, and the blood was moderately buffed. The following morning venesection was repeated, on account of the continued difficulty of breathing, and the inability to lie down in bed; but the shortness of breathing seemed to increase, the pulse became quick and irregular, and often indistinct, and he complained towards the evening that he had a difficulty in swallowing. At eleven p. m. Dr. Bright saw him.

" This last symptom was so distressing, accompanied with so much difficulty in opening the mouth, that I was led to inquire very particularly, whether he had received any prick or wound which might be producing tetanus, spasm, or trismus, but I could discover nothing except a blow and cut received nearly six months before over his left eyebrow, but which had healed without difficulty, or subsequent ill consequences. I saw him swallow, although with much effort, and with a kind of convulsive catch. I found his heart running on very fast, and acting spasmodically, but could discover neither rubbing sound, nor any bruit. He had no cough, and at that time I detected no pneumonic crepitation in the lungs; the skin perspired very freely." 6.

It was concluded that rheumatic inflammation had affected the diaphragm, and probably the pericardium; and the prescription consisted of calomel, antimony and opium, mustard poultices to the chest, and purgatives.

" About two a. m. Mr. Balderson was called up to see him, on account of the rapid increase of the tetanic symptoms, and found that he had only been able to take one pill and one of the purgative draughts, and now his teeth were completely closed. At 9 a. m. I again saw him, and found him propped up in bed. The anxiety of countenance was excessive; the state of trismus was complete; so that it was impossible to get anything into his mouth, and his deglutition so completely interrupted that he was unable to swallow his saliva, and it was with the greatest difficulty he could get rid of it as it collected in his mouth. There were likewise some slight indications of opisthotonos and spasmodic action of the muscles of the back. His bowels had been twice relieved; his pulse was very rapid, often quite indistinct. We ascertained distinctly that there was some pleuritic effusion, with a rubbing sound, and likewise some pneumonic crepitation at the lowest part of the left lung." 7.

Blisters, mercurial ointment, opium suppositories, &c. were determined on, but by 2 p.m. there had been no relaxation of the spasm, and he had experienced two convulsive seizures. A third occurred during Dr. B.'s visit. It was quite epileptic in its character, and the countenance became purple and suffused—the eyes strained—the whole body convulsed. His pulse was very feeble, and his skin bathed in a most profuse perspiration. He was quite aware of his situation, though he rambled occasionally. He suffered three more distinct epileptic attacks, and died at 5 o'clock P.M. within twenty hours of the first appearance of the symptoms of dysphagia, on which the trismus and convulsions had rapidly followed.

Dissection.—There were traces of inflammation at the lower edge of the right and left lung. The lower half of the right pleura, as it covers the ribs and extends over the whole diaphragm, was highly inflamed, and covered with a thin coating of fibrin. The inflammation was, however, still more marked as it ran up towards the root of the lung and covered the right side of the pericardium, where the phrenic nerve was seen winding its way down the membrane in the midst of the most intense indications of inflammation, and as it ran over the diaphragm was covered with shreds of recent false membrane. The left pleura was also inflamed, and a chamber was formed at the lower part just where the diaphragm forms an agle, containing about half an ounce of straw-coloured serum intersected by bridles of recent lymph.

"The two cases," says our able author, "which I have now related are full of matter for interesting consideration, and in a practical point of view afford examples of the combination of inflammatory affections with convulsive symptoms, capable of masking each other in a manner which it is most important to bear in mind. In the former of these cases the inflammation of the pericardium was but darkly conjectured even to the last. In the latter case the inflammation of the pleura and diaphragm was much more early predicated, and yet the obscure story of a cut upon the forehead six months before had its weight on our minds in a case so exactly resembling traumatic trismus, and probably in some degree paralysed the desire for more large depletion; from which, however, I do not believe any benefit would have resulted, considering the complete relaxation of the pores of the skin, and the state of prostration to which the pulse was already reduced by the two previous bleedings. At the same time, when we find on examination the results of intense inflammatory action, it is not possible to feel confident that bleeding, even in the very advanced stages, might not have been serviceable. Had the state of the patient been such as to permit of the regular administration of medicine by the mouth, I have great confidence in the effect which calomel, antimony and opium would have produced; and this combination is, perhaps, a more appropriate remedy than large bleeding under such circumstances; but whatever the remedy we may feel inclined to adopt to overcome the disease, the great and important point is to impress upon our minds the fact, that the most violent attacks of spasmodic disease will occasionally owe their existence to inflammation of that portion of the pleura and the pericardium, where inflammation is often with difficulty detected—that part more particularly where the phrenic nerve in its course or its distribution is to be found." 10.

We would observe that the apparent prostration in such a case as the last does not seem to be an efficient reason against active depletory measures. These latter are no doubt useless or worse where actual disorganization has occurred in an important part. If there is a chance under such circumstances, it is from the reparative powers of the system, powers which violent measures would impair. But where the main lesion is a limited pleurisy, prostration must be rather the effect of the intensity of the inflammation on the system, and what relieves the inflammation must, consideratis considerandis, mitigate the prostration. All practical physicians will, however, allow, that cases of this description are much clearer after their issue than in their course, and perhaps there are few where the most observant men are more apt to be misled.

Dr. Bright, after quoting some opinions on the occasional connexion between chorea and rheumatism, observes that he has seen many cases of their combination and alternation, and some that convince him of the dependence now and then of the former on inflammation of the pericardium. We may mention the particulars of one.

Case.—Dr. B., about twelve years ago, saw a young lady, in consultation with Dr. Lister. The catamenia had been irregular, and she had suffered from rheumatic affections of the joints, though not in the genuine form of severe rheumatitis; several of the joints were puffy, slightly inflamed, aching and tender; and she had now begun to show symptoms of involuntary motion—the movements and actions, in fact, of complete chorea. The heart was agitated, and to it the chief uneasiness was referred; the pulse was hurried and irregular; on listening to the heart a "frottement" was distinctly heard. No doubt was entertained of the existence of an inflamed state of the pericardium. Remedies were applied, both local and general, under this impression, and the lady recovered completely, and is now living, the happy mother of a family.

And, after detailing several other cases, Dr. Bright adds:—

"Though I doubt not that in some cases the coverings of the cerebro-spinal mass may be, and are, implicated, yet I believe that the much more frequent cause of chorea, in conjunction with rheumatism, is the inflammation of the pericardium, and that the irritation is communicated thence, probably to the spine, just as the irritation of other parts, as of the bowels, the gums, or the uterus is communicated, and produces the same diseases; for I do not at all incline to the belief, that inflammation, in or about the spine, is necessary to induce chorea." 15.

The next case related by Dr. Bright is given with a very different view, with that, namely, of shewing, how symptoms may arise in chronic disease when the pericardium becomes implicated, which may give a peculiar aspect to the case, and embarrass the diagnosis.

Case 8.—A young lady, aged 17, three months prior to Dr. Bright's visit, had first begun to complain of a pain in the right foot and knee, and then in the groin, and extending up the side, so that it was supposed that the liver might be in fault, and slight mercurial action was induced; after this the pain became less, and a fulness in the iliac region and the groin seemed to diminish. Three weeks before Dr. B. saw her, some of the inguinal glands enlarged, and since that, some of the glands of the neck and under the left ankle; and for the last ten days a very hard swelling had taken place near the tuberosity of the ischium on the right side. It was quite plain that very extensive glandular disease was taking place; and although she had already lost one of her sisters of phthisis, as it was supposed, yet the general diffusion of the disease, without any pulmonary symptoms, seemed to render it probable that this was even more serious than simple tubercular disease. The country and sarsaparilla were prescribed.

" She was removed to Brixton, but I was again requested to see her on the 19th of June; all her symptoms having been increasing, and, in addition to the rest, she had become the subject of the most alarming attacks of dyspnœa, coming on generally in the middle of the night with agitation and shaking, and apparent convulsion of the diaphragm threatening death, and resembling an aggravated form of hysteric convulsion. I could now feel an abdominal hardness like a tuberculated omentum, and there were now to be discovered a string of small very hard glands, tender to the touch, running along the back on the left of the spine, near the lower dorsal vertebræ.

I saw her occasionally after this: the attacks of dyspnœa and convulsion returned frequently at night, and assisted in wearing her out gradually, and she sunk upon the 9th of July." 17.

Dissection.—The body, writes our author, was greatly emaciated. There were some subcutaneous tumors on the chest and abdomen. They were small, oval, flat, and some of them were softening at their centres.

Chest and lungs quite free from all tubercular deposit. The surface of the right lung had upon it several small, hard, malignant deposits, which, in one part, formed a fringe round the edge of the lung. The heart and pericardium formed a hard mass, firmly glued to the sternum by the white fungoid matter deposited in the anterior mediastinum, so that on raising the bone they were round like a hard tumor attached within.

The heart itself presented a curious specimen of disease: a thick layer of yellow malignant matter lined and covered the pericardium, both the portion attached to the heart and the reflected portion; the two deposits were strongly glued together in most parts, and were a quarter of an inch in thickness. In other parts the two layers were easily torn from each other. The phrenic nerve was seen on the right side passing down, pressed upon, and almost embedded in this diseased mass.

The iliac, lumbar, and mesenteric glands were similarly diseased—as were the ovaries, and the broad ligaments.

Dr. Bright thinks there can be no doubt that the peculiar and very alarming train of symptoms which assisted in wearing out this patient, depended on the condition of the heart and pericardium, and the nature of the attacks would render it probable that the phrenic nerve was more particularly implicated in the irritation produced.

An interesting paper.

II. ON A PECULIAR FORM OF CONGENITAL TUMOUR OF THE NECK. By CÆSAR HAWKINS, Surgeon to St. George's Hospital.

Mr. Hawkins, whose exertions to improve our acquaintance with the morbid growths are so well known and so successful, has communicated an instructive paper on this subject. After noticing the more familiar forms of encysted tumors, he proceeds to describe one of which he believes that no published account can be found. It is a form of congenital tumor, which is composed of many cysts joined together, in which the proportion of organized matter is so considerable, as to give a more solid character to the tumor, and make it deserve the name of cystic tumor, as much as the apparently analogous cases of cystic sarcoma, occasionally found in the breast, testis, or ovary of adults.

He presents two cases as fair samples of the affection.

Case 1.—A child about eight months old was taken to Mr. Hawkins by Mr. Julius, of Richmond, on account of a large tumor on the right side of the neck, which was of the size of a small orange at its birth, and had gradually increased since that time. The tumor now reached from the zygoma to the cricoid cartilage, and from the mastoid process to the chin; it projected outwards about three inches, so as to make the side of the face and neck appear nearly twice as large as the opposite side; and it extended also below the jaw, into the mouth, so as to push the tongue considerably to the opposite side and upwards. But although it caused much unsightliness, it appeared to occasion no pain nor inconvenience, and the child was quite healthy.

The skin was unaltered, and unattached to the tumor, and had much fat below it, and the outline of the tumor was smooth and uniform to the eye; on feeling it carefully, however, it was evident that there were several globular irregularities, some of which were of hard consistence, as if solid, and possibly glandular, but four others in the parotid and submaxillary glands appeared to contain fluid, which was the more probable, as two other cysts were perceptible below the tongue, transparent, like ranulæ, but containing a dark red fluid.

The cysts were punctured from time to time, as they refilled, and the same plan was pursued with several other cysts, which came forward as those first observed were obliterated; each cyst contained from a drachm to half an ounce of liquid, the contents of some being nearly clear water, with very little trace of mucus or albumen, but the secretion of others being of a darker colour, with more coagulable matter, so as to resemble melted currant jelly. Friction was also employed, with hydriodate of potash ointment in the intervals of the punctures.

This treatment was continued for about a year, when the disposition to secrete fluid appeared to be subdued, and the swelling was about a third of its original size, and what remained felt and looked like a loose pendulous bag of fat and skin, with two or three solid lumps, like glands, below. The child has been removed from Richmond for several years, but, when Mr. Julius last saw it, no tumor remained.

Case 2.—"The appearance of the tumour in this case was more complicated than in the next which I will mention, which Mr. Palmer attended, at the St. George's and St. James's Dispensary, and which he requested me to look at. The tumour was, in this instance, about the size of an orange, and was soft and elastic, moveable, and nearly pendulous, from its weight, and was situated in the same place as in the last case, in front of the ear, and below the jaw. It gave no pain nor inconvenience, and had scarcely increased in size since the birth of the child, who was now about a year old. The skin, as in the other case, was unattached, and had much fat below it, and there had been, I believe, some thoughts of removing the disease as a common adipose tumour. There were in it, however, several round bodies, two of which appeared to contain fluid, but the nature of the others was more doubtful. One of these, at the margin of the parotid gland, contained three drachms of clear liquid, but the other being punctured, no fluid escaped through the needle. With the final result of the case, I am not acquainted, as the child was not brought many times to the Dispensary."

The next case is brought forward by Mr. Hawkins, as eminently illustrative of the nature of these cases.

Case 3.—A child, eleven weeks old, was sent to Mr. Hawkins with a tumor in the neck. It was emaciated to the last degree, as, in fact, it had scarcely digested any food from its birth, almost every thing that was swallowed, or attempted to be swallowed, being nearly directly vomited again: it had also scarcely slept since its birth, as, whenever laid down in the horizontal position, it was instantly roused from slumber by impending suffocation; whatever rest it did obtain was therefore procured while held nearly upright in the arms. Notwithstanding this, however, it did not cry or breathe, when awake, as if there was any constant pressure about the glottis, nor was the tumor in the neck so tense as to account for the symptoms, unless some portion was intricately connected with the larynx and œsophagus, independently of the general tenseness of the whole tumor; which did not appear very probable, from the facility with which respiration was ordinarily performed. On the right side of the neck was a tumor, the prominent part of which was of the size of a large orange, and which reached from the zygoma nearly to the clavicle, and from the ear to the chin, across the upper part. It was soft and elastic, and the skin was healthy and unattached, and it seemed to be quite free from pain or tenderness.

Below the jaw, Mr. H. could detect three or four small cysts of fluid, and one or two smaller, and apparently solid bodies, like glands; but the greater part of the tumor in front of the ear did not fluctuate, nor present any irregularity of surface, but was soft and elastic, and compressible, like a subcutaneous nævus, which disease it resembled, also, in becoming more tense and prominent from crying or struggling, and below the mucous membrane of the mouth were several varicose vessels, like those observed sometimes in the neighbourhood of blood-vessel tumors.

The child died a few days afterwards, suffocated suddenly.

Dissection.—"When the thin skin covering the tumour was turned back, it appeared to be of the size of two oranges, separated by a deep sulcus, which was formed by the tendon of the digastricus muscle, which being much pushed forwards by the tumour, must have had its actions in connection with the larynx and pharynx much interfered with. The disease was now seen to be composed of a great number of small cysts, many hundreds probably, varying in size from a pea to a walnut, closely joined together, and composed of delicate membranes, like very fine peritoneum, but in some parts covered by fibrous structure, giving the cysts the appearance of thin pericardium, and very few of them were so far insulated as to admit of being dissected out without cutting through others. The fluid in most of the cysts was transparent, with scarcely any trace of coagulable matter, but in others the contents were of every shade of red, even as dark as venous blood, but without any coagulum, and evidently only coloured secretion.

The softness and elasticity of the prominent part of the tumour, arose from most of the cysts in that situation being flaccid, and only half filled; in other parts single cysts were so tense as to be quite unyielding, as if solid, and a feeling of solidity was also given by a few cysts being more closely joined together than those by their side; and in one or two parts a tense cyst projected into another in a flaccid state, so as also to feel like a solid body; although the only really solid bodies were two or three small absorbent glands mixed with the cysts. The portion of the tumour in front of the ear was covered by a thin layer of condensed parotid gland, another part of which, in a healthy state, lay behind the cysts, through the middle of which ran the portio dura, and external carotid artery. The submaxillary gland was pushed out by other cysts, so as to be loose below the skin, and all the vessels and nerves at the base of the jaw were surrounded by some of the cysts, and curiously twisted in their course.

On dissecting deeper, the cysts were found to extend along the front of the spine, behind the pharynx and œsophagus, some being as high as the basilar process, and some as low as the sixth cervical vertebra; and along the whole length of the neck the cysts surrounded the carotid artery, jugular vein, and nervus vagus, which were even separated from one another by some cysts formed in their sheath. None of these bodies were very closely united to the œsophagus and pharynx, and there seemed to be nothing morbid about the glottis, except a slight thickening of the mucous membrane." 239.

Mr. Hawkins makes some remarks on diagnosis:—

"It is evident from this account, that the numerous cysts which compose the tumour are formed in the common cellular tissue; each separate cyst, it is to be presumed, being like the single serous encysted tumour met with in many parts of the body, at every age; why such numbers should be formed at once before birth, does not appear, unless it arise from the peculiarly lax and watery nature of the cellular membrane in the fœtus, especially, perhaps, in the neck, where I believe such a tumour to be more common than elsewhere.

The number of cysts existing in the tumour, and the different degrees of consistence of the whole or of separate parts in different cases, arising, as the dissection demonstrates, from the size and state of tension, and relative position of individual cysts, make the diagnosis of the tumour somewhat obscure. When numerous and full of liquid, and small in size, they feel like enlarged glands, or other solid globular bodies; when numerous and only half filled, they become soft and compressible; but in both these cases the existence of fluid is difficult to be detected in comparison with those cases in which only a few larger cysts exists.

The resemblance to fatty tumours is considerable, and the deception is assisted by the quantity of fat generally situated beneath the skin, and filling up the inequalities of the surface of the tumour. They are also much like a subcutaneous nævus, which is so often developed in the same situation, when the cysts are half-filled; in the fatal case I have related, the softness and compressibility of part of the tumour, its increase from exertion, and the varicose vessels within the cheek and mouth, made me think it probable that some part of the tumour was composed of blood-vessels, though the nature of the remainder was clearly perceptible. In each case that I have seen, however, the existence of globular bodies in some of which fluid was perceptible, distinguished the tumour from every other kind likely to be formed in infancy." 41.

We naturally inquire what treatment may seem most likely to succeed.

Excision may appear easy but would probably be difficult if not impossible. We may refer to the dissection already given, and we may refer also, to a case of Mr. Arnott's in which that gentleman operated. The tumour, indeed, was situated in a more favourable spot, behind the sterno-mastoid muscle. A single cyst was opened first, when the infant was a month old, and repeated once more, and when five months old this was laid open in order to remove what appeared to be a solid body, but which was found to be composed of a multitude of small cysts, as in the cases previously narrated. The tumor was followed under the sterno-mastoid muscle and carotid artery, and behind the pharynx, and its total excision being found impossible, a ligature was tied round the deeper part. The child ultimately did well, but the ligature was not entirely thrown off for three months, during which time repeated attacks of erysipelas occurred.

The results of Mr. Hawkins' observations on the subject of treatment may be thus set forth :—

1. The cysts may be emptied, from time to time, by a grooved needle, so that there is no scar whatever; or by a lancet, when they are situated in the mouth; the punctures heal directly, and the emptying the larger cysts appears to assist the action of other remedies upon the cysts themselves.

2. Pressure may be employed, especially after the evacuation of the fluid, in some situations, as in front of the ear, although, of course, this means is generally inapplicable, on account of its obvious interference with respiration, mastication, and deglutition.

3. Stimulant applications may be constantly employed, of such a strength as to excite moderate inflammation, but stopping short of suppuration, in order to avoid deformity; to avoid which Mr. Hawkins has directed their intermission for a short time after the punctures.

"The cysts do not appear, however, much disposed to inflammation, beyond the degree necessary for their obliteration and absorption, after the fluid has been got rid of. The applications I have made use of have been the ointment of hydriodate of potassa, rubbed on by the hand; a solution of a drachm of iodine and two scruples of hydriodate of potassa in an ounce of water, painted over the tumour by means of a camel's hair brush; a lotion, of half an ounce of Goulard with two ounces of spirit, and six of camphor mixture, applied by means of folded linen; or one composed of from one to two drachms of muriate of ammonia, mixed with two ounces of vinegar and spirits of wine, with eight or ten of water." 243.

We have found the tincture of iodine, repeatedly applied with a brush, a good application, where such local means are wanted. It produces continued desquamation of the cuticle, and does not occasion permanent discoloration.

Mr. Hawkins observes that this method of treatment must needs be tedious, hence he has seldom seen cases to the end.

His readers must feel obliged to Mr. Hawkins for this useful communication.

III. NOTICES OF THE EFFECTS OF LEAD UPON THE SYSTEM. By JAMES ALDERSON, M.A. and M.D. Physician to the Hull General Infirmary, &c.

Dr. Alderson has seen two cases in which paralysis of the nerves of vision resulted from exposure to the influence of lead. Acting on the hint afforded by the use of splints for paralysis of the extensor muscles of the fore-arm, Dr. Alderson excluded light from the paralysed eyes in these cases, and with the happiest effect.

Case 1.—Dec. 27, 1833.—Elizabeth Clayton, aged 25 years, single woman, was admitted into the Hull General Infirmary. States that she has worked for seven or eight years in the lead works, and has never before been attacked with paralysis. She first perceived the approach of paralysis about six weeks ago. The hands were the first to lose their power; after about three weeks her eyesight began to be defective. The sight is at this time completely lost. The pupils are somewhat dilated. Her legs are also affected with paralysis, but she scarcely knows how or when they became affected. She states that she has done all sorts of work in the lead works, but is of opinion that what is called "picking," is the most deleterious. The girls of the works are employed on this duty every other week only.

Dr. Aldersou gives us, in a note, the following account of "picking."

When lead, in its blue metallic form, is first placed in the earthen pots, it is rolled up or cast in forms, and placed over vinegar; it then remains for some time, (six or eight weeks,) embedded in manure and bark, which keeps it at a proper temperature for the action of the vapour of the vinegar upon metal. When first opened out for work or separation, there arises a heated vapour, which is thought by those employed in the works to be very pernicious. The pots are then taken out of the beds and carried to a table, to be "picked over." The lead is then unrolled, or passed between rollers and crushed, to force off the encrusted carbonate, or white lead of commerce. That which is white is separated from the metallic part, and it is this separation, or "picking," as it is called, which is found to be so pernicious. During the mechanical separation, by crushing, the finer portions of the carbonate will be suspended in the atmosphere, and breathed by the girls whilst employed in the work.

The following medicines were ordered for the patient. A drachm of sulphate of magnesia, with two minims of laudanum, in an ounce of the compound infusion of roses, every four hours. Ten grains of the compound ipecacuanha powder at bed-time, and a stimulating liniment to the neck and spine, and a generous diet.

She was in the house three weeks on this plan, without any improvement in the vision, though during this time her other paralytic symptoms were perceptibly improving. With a view to take off the stimulus of light from the nerves of vision, a bandage was then directed to be applied over the eyes, so as to exclude the light altogether. The bandage to be worn day and night.

By the 18th of February she could read large print and was made an out-patient, soon after which she was discharged from the hospital perfectly cured.

Case 2.—On June 10, 1835, Elizabeth Dyson, aged 18 years, was admitted into the Hull General Infirmary, suffering from complete lost of sight, with paralysis of the hands. States that she has worked nine months in the lead works, and has had colic several times; that castor oil was always sufficient in her attacks of colic to remove the complaint.

A bandage, as before, was ordered over the eyes, and to be kept strictly applied, so as to exclude all light; and the same plan of treatment was adopted as in the last case.

June 24th. Some power of vision returning; better in her other paralytic symptoms.

July 8th. Eye-sight quite restored; ordered quinine.

July 15th. Discharged from the hospital cured.

We add the following remarks.

"I may be allowed to add, that several cases of paralysis, without loss of vision, and numerous cases of colic, have also within the last nine years fallen under my care, both in the hospital and out of it. Those of paralysis, without colic, I have found, for the most part, hitherto to yield to the compound infusion of roses, with salts and laudanum. Whilst those of acute colic always give way to a steady perseverance in drastic purgatives, assisted by purgative injections.

In the milder cases, the old remedy, calomel, colocynth, and opium, in repeated doses, answers admirably; whilst in the more severe cases, croton oil frequently repeated, until relief be obtained from the bowels, is more efficacious than any other remedy with which I am acquainted. The form and dose which in my experience is found to answer best, is two drops of the oil, with ten grains of magnesia, a drachm of mucilage, and an ounce of cinnamon water, every two or three hours.

I willingly bear testimony to the excellence of this remedy in cases which resist the milder and more common treatment, in overcoming what was formerly supposed to be spasm in the bowel; but which we now believe, reasoning analogically from those parts which we have the means of observing, to arise from paralysis of portions of the intestine.

This state of the intestine, in the more severe cases, requires the most powerful drastics in order to induce the bowel to empty itself of its contents. It may admit of doubt in what way the effect is produced by drastics, whether as a stimulus to the paralysed part of the intestine, or to the more healthy part of it, by which so much increased action is induced, as to carry the contents of the bowel through and beyond the paralysed part. Certain it is, that the most powerful drastics are required, and are well borne by the patient." 87.

Dr. Alderson adds:—

Some Cases of Paralysis from the unsuspected absorption of Lead, in consequence of drinking rain water, kept in lead cisterns.

On the 18th July, 1837, Dr. A. saw, in consultation with Mr. Craven, Mr. Thackray, aged 63.

He was labouring under paralysis of the upper extremities, and partial paralysis of the lower. The hands, with the palms turned inwards, hung by his sides, and rather forward, perfectly powerless, rather swollen, and of a livid hue. He had no power of moving the fore-arm, nor of rising from his chair without assistance. When he walked to his bed-room, he required the assistance of a servant on each side of him, and then his knees bent under him, and his gait was tottering. His voice was a good deal altered, and the control over the tones of the voice much impaired. His countenance was blanched, but not sallow; the functions of the brain, as an organ of intellect, not interfered with. He complained of great pain in the lower part of the body, accompanied by costiveness, and of pain across the legs and arms. He would frequently shed tears from slight causes.

"I learnt from Mr. Craven, that his bowels acted only every three or four days, and then only in consequence of having taken active medicine; that in a former attendance, eighteen months previously to my being called to attend him, Mr. Thackray, had an epilectic seizure. During the fit he fell out of bed, and dislocated the left shoulder, since which period he has not been affected with epilepsy.

The fact, that the sister of Mr. Thackray's late wife, who lived in the house with him, was last year attacked with paralytic symptoms, precisely similar to those of her brother-in-law, excited my attention, as a remarkable coincidence. These had supervened upon a debilitated constitution, which had for some years shown signs of giving way. She died paralytic, without any cause of the paralytic symptoms having been made out.

As there was no relationship by blood between them, it appeared to me more than probable, that some common agent existed as the cause of the symptoms in both.

On inquiry, it was ascertained that the water used by the family, and which was supposed by them to be more pure than any supplied to the town, was rain-water, collected from the top of the house by means of lead gutters, and received into a cistern lined with lead. It was filtered for use, and had a sweetish taste, which had often been remarked by the servants. On testing the water in conjunction with Mr. Robert Craven, agreeably to the recommendation of Dr. A. T. Thompson, we obtained distinct evidence of the presence of lead.

It was now deemed advisable by us to call in to our assistance Mr. Pearsall, a most able chemist, to determine the precise condition in which the lead existed, and the proportion contained in the water.

On examining the sides of the cistern, in conjunction with Mr. Pearsall, and scraping them with the nail, the white carbonate of lead was abundantly manifest, especially in the angles of the cistern, where the soldering had, probably by galvanic action, assisted and expedited the change. Efflorescence was here distinctly to be seen.

It was now pretty evident that the source of the paralytic symptoms was lead in the water; and, in consequence, Mr. Thackray was immediately put on a similar plan to the cases which I have already detailed, viz. compound infusion of roses, with suphate of magnesia and laudanum, and a generous diet allowed, with stimulus in moderation. Subsequently quinine, strychnine, frictions, and electricity.

I am happy to have it in my power to say, that Mr. Thackray is now able to walk almost any distance, to use his arms pretty well, though he has not regained, and probably never will regain, complete power over the wrists and fingers.

He is now able to enjoy life, which was previously becoming a burden to him; and he is very grateful for the providential discovery of lead in the water used by the family, and which is now entirely discarded for culinary purposes.

Many of the usual symptoms were manifested in the servants, but in a minor degree; they have been, more or less, tormented with colicky pains, and by constipation; but not having resided for any long period subjected to the influence of the water, it was not to be expected that they would be affected with the more chronic symptoms, as paralsyis, &c.

It is worthy of notice, that it was always remarked that when Mrs. Martin (Mr. Thackray's sister-in-law) went on a visit into Lincolnshire to her native air, she recovered wonderfully from her paralytic symptoms, and came home much invigorated and restored; but on her return to Hull, the symptoms of paralysis soon returned. The action of lead on the system was not at that time suspected.

This fact accords, however, with our observations on the general action of this poison in the system in those whose pursuits and avocations lead them to handle it or to be amongst it. In painters we witness an aggravation of symptoms on a return to their accustomed employment; even the wearing of unclean apparel has been supposed to re-induce the disease in those who have recently suffered from it." 91.

IV. CASE OF MALIGNANT DISEASE OCCUPYING ONE-HALF OF THE TONGUE, IN WHICH A LIGATURE WAS APPLIED FROM BENEATH THE JAW.

Mr. Arnott observes that when malignant disease of the tongue has extended to its basis, the application of a ligature from the *mouth* has been found impracticable, and the case abandoned as hopeless. But some operations performed by M. Jules Cloquet and M. Mirault have tended to modify this feeling of despair.

Case 1.—In a man who had disease on one side of the tongue, and which could not be removed by incision or the ligature applied through the mouth, M. Cloquet operated thus:—Having made a small incision in the mesial line of the neck above the os hyoides, he passed a curved needle, having an eye at the point and fixed in a handle, through the base of the tongue, and carrying the handle backwards caused the point to project between the teeth. Through the eye two ligatures were passed, and the needle being withdrawn carried the ligatures through the tongue. The free part of this organ anterior to the frenum was next divided in its middle, and the needle being reintroduced at the wound in the neck, its point was made to appear in the floor of the mouth just before the frenum. The oral ends of both ligatures were next passed through its eye, and the needle being withdrawn, one of the loops thus formed was disposed longitudinally on the middle of the tongue and in the angle of its division; the other across, so as to surround it on the outer side. Being tied, the cancerous part was included between them. The operation terminated unfavourably, the patient dying in three days.

Case 2.—" In a case of alleged cancerous tumours," continues our author, " with ulceration of the tongue, which M. Mirault met with in a woman, (aged 23,) and which occupied the centre of the organ in almost its entire width, two modes of operating presented themselves to the mind of that gentleman, who was not at the time aware of M. Cloquet's case. One of these was to apply two ligatures to the tongue immediately in front of the arch of the palate, in order to intercept the circulation through the part, and to divide it transversely, and then, ' dans un second temps,' to extirpate the anterior portion of tongue, by detaching it with scissars from the floor of the mouth.—The other was to tie both lingual arteries, and having thus guarded against hæmorrhage to extirpate the cancer. M. Mirault determined upon adopting the latter proceeding, but in attempting it, he failed in finding the left lingual artery, though he succeeded in tying the right. Fifteen days subsequently, in order to control the circulation through the left, he placed a ligature around this half of the tongue, for which purpose he made an incision from about a finger's breadth under the chin to the os hyoides, and by this a needle was carried through the base of the organ into the mouth, out of which he drew the needle: this was again carried into the mouth, and through its floor, directly in front of the arch of the palate on the left side of the tongue, and brought out at the wound under the chin.

The ligature being tightened cut its way through the tongue in nine days, and during this time the tumour sensibly diminished, and the edge of the ulcer became less hard and prominent. To complete the operation nothing now remained but to detach the parts from the floor of the mouth, and to divide the right half of the tongue.

M. Mirault preferred doing this 'en deux temps,' and reversing the order just mentioned, he resolved to effect the division of the right half by means of a ligature, as had already been effected on the left.

Having done so, the beneficial results were so remarkable, that the remaining step of the operation was postponed—then abandoned—in fact, the tumour rapidly decreased, and the ulcer began to heal, so that in twenty-seven days from the last operation, the former was reduced to the size of a nut, and the latter was in great part healed. Two months subsequently the tongue had resumed its natural size, and presented a very dense cicatrix on its surface, but the tumour had entirely disappeared.

At this time the patient could move the tongue freely, could speak so as to be readily understood, and the sense of taste was retained on both sides of the tongue." 32.

Case 3.—Hannah Hayward, fifteen years of age, was admitted into the Middlesex Hospital, on the 8th of May, 1838: the right half of the tongue was occupied by a tumour which projected from its upper and under surface, extended from nearly half an inch of the apex to the isthmus faucium, protruded at the edge between the teeth, and in the mesial aspect overstepped this line, and by compression had considerably reduced the width of the left or sound half of the organ. The bulk and form, generally, of the swelling, were those of a pullet's egg, but with irregular outline. The prevailing colour was purple, in parts, however, yellowish grey, apparently from effusion of lymph underneath the cuticular covering. Posteriorly, the upper surface was covered by warty excrescences: anteriorly, it presented a vesicular appearance, from serous effusion into the papillary structure. The substance of the tumour was firm, solid, and unyielding to compression. Soreness of the part was complained of, and pain was felt in the ear. Trifling bleeding had occasionally taken place from the part, and was readily excited by rough handling, but soon ceased. There was no enlargement of the neighbouring lymphatic glands, and the patient looked well. She had never menstruated.

The disease had begun as a small blue swelling nine years ago, but increased rapidly six weeks previously, after some pills which she had taken for fits. It is unimportant mentioning the remedies employed, as they were useless, and the disease advanced.

"The size of the swelling had now materially increased, filling the concavity of the palate, and the sub-lingual space; it measured 2½ inches in length,—1½ in breadth,—and 1½ in thickness,—reducing the left half of the tongue to a narrow strip. In the ordinary situation of the parts, the limits of the disease could not be seen; but by causing the tongue to be protruded, and drawing it forcibly over to the left side, the boundaries of the tumour could be traced by the finger passed along its outer edge, under the arch of the palate, where sound structure could be felt beyond. On the mesial aspect and superior surface the warty excrescences previously mentioned, had so overlapped the left half of the organ as to render it impossible to trace the sulcus naturally existing in this situation. The presence of these growths, and more especially the prominence in this direction of the swelling itself, rendered it more difficult to distinguish the boundaries of the disease on the upper surface posteriorly, which were, however satisfactorily made out. Inferiorly, in the corresponding situation, this, of course, from the attachment of the parts, could not be done, but from the examination, as far as it could be carried, and the degree of persistent mobility of the organ, it was inferred that the disease did not include the whole of the basis below." 23.

Operation.—This was performed on the 6th of June. The able operator thus narrates it:—

The patient being seated, the head slightly extended, and the os hyoides felt, an incision was made from over it upwards and forwards, an inch and a half in length in the mesial line, through the skin, cellular substance, and raphe, of the mylohyoid muscles. With the edge of the knife, but chiefly by its handle, way was made for the finger between the two genio hyoid and the two genio glossi muscles. A tenaculum was next passed through the apex of the tongue, by means of which it was drawn out of the mouth, and held so during the subsequent part of the operation by Mr. Mayo, (Mr. Tuson, Dr. Warren of Boston, U.S., and Mr. B. Phillips, being likewise present). Into the wound in the neck, a strong needle with an eye at the point in a fixed handle, was now conducted and passed through the basis of the tongue into the pharynx, a little to the left of the mesial line: the loop of ligature which it carried was then, by means of a blunt hook, drawn forwards out of the mouth, and the needle withdrawn from the wound over one of the ends. The loop being cut, two ligatures were obtained; one of these was placed along the upper surface of the tongue, so as to bound the disease on its left side, and carried through the apex of the tongue from above downwards by means of a large curved needle, through which the oral end of the other ligature was *now*, also passed. Fixed in a porte-aiguille, this needle was next carried through the floor of the mouth immediately behind the last molar tooth, on the right side, directed at first, and for the greater part of its course, perpendicularly downwards, then inclined mesial, and brought out at the incision in the neck. There were thus two ligatures, the four ends of which hung out of this wound: one of the loops was so disposed as to encircle the right half of the tongue at its basis beyond the tumour; the other was placed longitudinally on the upper surface of the tongue, longitudinally and obliquely below. Being tied, (and this was done as tightly as possible,) the diseased mass was circumscribed posteriorly, laterally, and, in some measure, inferiorly. A third ligature was now passed through the fore-part of the tongue, so as to isolate at this point the diseased from the healthy structure.

The immediate effect of the operation was, that the tongue became fixed in the mouth, and the patient unable to articulate or swallow. For a fortnight all food and medicine were conveyed into the stomach through an elastic gum catheter. We need not mention details of little moment.

On the eleventh day the condition of the parts was as follows: the *diseased* was completely separated from the *sound* half of the tongue by a deep trench, so as to give it a truly bifid character, and the trench was continued across the basis, seeming to extend through the whole thickness of the part. The tumor was lessened in size by the sloughing of its surface,—it had wholly lost its vesicular and warty character, was of a pale red colour,—felt firm and resisting generally, and hard posteriorly. About the middle of its dental edge its colour was livid, and close to this on the upper surface the latter was irregular and ulcerated. Reunion by granulation had commenced between the diseased and sound portions of the tongue, but this was easily broken down by the probe. It was now evident that the former part derived some vascular supply from below, and the following method was employed to cut this off.—A loop of silver wire, properly bent, was passed over it, from the mouth, carried and depressed into the trench already mentioned as surrounding it, and being drawn forwards, the diseased part was found to be placed completely above the level of the loop. The two ends of the wire were next passed through a double polypus canula, and this being carried home under the tumor, to what may now be considered as its neck, the ligatures were tightened, the death of the part effected, separation ensuing on the fifth day (the seventeenth from the first operation.) The patient left the hospital on the 10th of July, and there is yet no appearance of a recurrence of the disease. Mr. Arnott adds:—

> " It will be recollected that the mere tip of the tongue on the right side not having been included in the disease was not removed. For some time the patient was much annoyed by her inability to distinguish the taste of substances coming into contact with this portion of the apex, and by its getting perpetually pinched between the teeth. Although the former condition remains unchanged, as I have this day (Nov. 13th) ascertained by the application of sapid bodies, she has become reconciled to it, and the latter does not now occur. For a longer time she was incommoded by food getting into the cavity left by the operation, and either remaining there unnoticed, or when she was aware of it, requiring the employment of the finger for its removal. But partly from the space there being diminished, owing to the development of the previously compressed parts, and partly from having acquired a greater degree of power in the use of the tongue towards its displacement, she is not subjected to as much inconvenience as heretofore.
>
> The motions of the tongue are restrained by the cicatrix attaching it to the bottom of the mouth, and the tip cannot be protruded beyond the teeth, but a stranger would not discover by her speech that she had lost so large a portion of it, he would merely remark that she lisped." ·29.

A case well deserving of perusal, and very creditable to Mr. Arnott.

V. Notices of the Occurrences at the Small pox Hospital, London, during the Year 1838. By George Gregory, M.D. Physician to the Small-pox Hospital.

This is a short, but a valuable report. We cannot much curtail it.

The total number of patients admitted into the Small-pox Hospital during the year 1838 was 712—416 males, and 296 females.

Of them 17 had diseases not variolous (such as lichen, spurious measles, &c.)

Total, having small-pox in some of its forms, 695.

Of them there died 187, being at the rate of 27 per centum.

Of these 695 there had been vaccinated in early life 302, of whom 30 died, being at the rate of 10 per cent.

The remainder, 393, were unvaccinated, and of them 157 died, being at the rate of 40 per centum.

No patient applied for admission having previously been *inoculated!*

In 1781 the admissions were 646; of them 257 died, being in the ratio of 40 per cent., the exact proportion in which the unvaccinated died during the year just passed.

Had the like rate of mortality extended to all the patients admitted, the total deaths would have been 277.

Dr. Gregory observes :—

" 90 lives therefore were saved in 1838, more than in 1781; and I think there can be no question that, while some portion of this may be attributed to the improved state of the present Hospital, compared to that in Cold-bath Fields, which received casual patients in 1781, the largest share is due to *vaccination.*

Even at this time the arrangements at the Hospital are wholly inadequate for the numbers. In the months of March and April typhus fever broke out in the wards in consequence of overcrowding, proving fatal to 12 persons, of whom 6 had been vaccinated, and 6 had not.

This would reduce the deaths by small-pox after vaccination to 24, being in the ratio of 8 per cent.

Of the 302 patients received with small-pox after prior vaccination, 97 had the disorder in that extremely mild form, commonly called '*varicelloid.*'

The remainder (205) had it in variable degrees of severity, from the most distinct mild, through the several grades of semiconfluent modified and semi-confluent unmodified, to the confluent modified, simple confluent, and confluent malignant.

Great difficulties were necessarily experienced in determining who had been really vaccinated, of those who assumed to have undergone that process. The cicatrix was our chief guide; but this often failed us, from the swollen and pock-covered condition of the arm at the time of the patient's admission.

The same difficulty occurred occasionally with those who professed never to have undergone vaccination. The highly modified aspect of the disease in many of them afforded strong presumption of prior vaccination, which the appearances of the arm gave some countenance to.

The errors on the one side may fairly be taken as balancing those on the other." 97.

The following statements have an important bearing:—

The average age at which the patients were received, both the vaccinated and the wholly unprotected, was 21.

79 children were received *under ten years of age*, unvaccinated, of whom 31 died; 5 only at the same age, vaccinated, of whom none died.

The earliest age at which any *vaccinated* person was received was eight years.

The earliest age at which death took place after prior vaccination was fifteen years.

Between ten and twenty years of age, 246 *unvaccinated* were received, of whom 90 died.

Between twenty and forty years of age, 181 *unvaccinated* were received, of whom 86, or nearly one-half, died.

The increased severity of the disease, as life advances, is proved in like manner to hold true in respect to the vaccinated. Between fifteen and twenty-nine years of age (inclusive) 92 vaccinated persons were admitted, of whom only 6 died. (Say 6 per cent.)

Between twenty and thirty (inclusive) 163 vaccinated persons were admitted, of whom 23 died, being 15 per centum.

The great bulk of the vaccinated cases were between the ages of eighteen and twenty-four.

13 were received having small-pox after vaccination, between the ages of thirty-one and thirty-five, of whom one died.

4 were received above thirty-five years of age, vaccinated, all of whom survived.

The greater number of the vaccinated underwent that process in early infancy, and but a few at a period of life when they could remember the event.

By far the larger proportion were vaccinated in the country, and exhibited only *one cicatrix* on the arm.

We subjoin a short table, with the expression of a wish that our experienced friend, Dr. Gregory, will not be costive of his communications.

Return of the Ages of the several Persons admitted into the Small-pox Hospital in 1838.

Ages of Patients having Small-pox.	UNPROTECTED.		VACCINATED.	
	Admitted.	Died.	Admitted.	Died.
Under 5 years	42	20	0	0
From 5 to 9	37	11	5	0
From 10 to 14	30	8	25	0
From 15 to 19	103	32	92	6
From 20 to 24	113	50	108	15
From 25 to 30	45	23	55	8
From 31 to 35	12	7	13	1
Above 35 years..........	11	6	4	0
Total	393	157	302	30*

* Of these 6 died of superadded typhus.

VI. REMARKS ON THE ACUTE FORM OF ANASARCOUS TUMOUR OF THE SCROTUM. By R. LISTON, Esq. Surgeon to the North London Hospital.

Mr. Liston thus introduces six cases .—

"I propose to bring under the notice of the Society, briefly, a few cases of a different character from those above alluded to; cases of rapid distention of the scrotum with serosity, in which destruction of the cellular tissue and skin can, on the contrary, be arrested only by very early and free incisions.

This distention is or is not attended by redness or erythema of the surface; but there is reason to think, from the suddenness of the accession, and from the appearances on exposing the cellular tissue, that there is no actual inflammation of its texture; there being no induration, nor any appearance of lymph or puriform fluid in the areolæ.

The affection has generally supervened upon abscess or ulcer, perhaps trifling, in the perinæum or groin. Its accession has been sudden, the swelling and tension becoming very great and alarming even within a few hours. The most dependent part, generally the posterior, will be found at a very early period to present one or more deeply-seated ash or tawny-coloured spots; these extend; the integument is speedily involved; and, unless active measures be adopted, the entire coverings and investments of the testicles will be destroyed, and these organs exposed.

The progress of the case will depend materially upon the state of the patient's system, and upon the nature of the infiltration. Cases of œdematous swelling of these parts, the result of injury or of irritation in the neighbourhood, are continually occurring, in which none of these dreadful consequences arise, or need be feared. But in hospital practice, in some of those in the working classes, perhaps badly fed and clothed, or cachectic from any cause, and during unhealthy seasons, whilst erysipelas is prevalent, the surgeon will do well to look with suspicion at any sudden swelling in this region, and be prepared to treat it actively.

The fluid effused, and which falls, as it were, into the cellular tissue of the scrotum, is often dark, putrescent, and acrid; it causes destruction of all the parts it comes in contact with, and subsequently of the skin, as certainly, and sometimes as rapidly, as if the parts were infiltrated by urine. Cases of sloughing of the coverings of the genital organs are very generally supposed to arise only from this latter cause; and it is with a view of directing attention to the diagnosis, that the following cases are brought before the Society.

The same treatment, it is true, is so far required in either case. The scrotum must be freely opened at the point, where, in consequence of the pressure being greatest, the destructive process has commenced: but of course, in the acute anasarcous tumour, or as it may, in some cases, very properly be called, inflammatory œdema, there can be no occasion for interference with the urinary passage, by the application of instruments, either from without or within.

The history of the case, and the absence of a hard tumour in the perinæum, which attends upon and very generally precedes infiltration of urine, will enable the surgeon to form a correct opinion of the nature of the mischief, and to direct his procedures properly and satisfactorily." 291.

We have been for some time familiar, and, probably, many surgeons are so, with the affection so well described by Mr. Liston. It is far from uncommon in the London hospitals, and about seven years ago there were three or four cases of it in the course of one year at the Lock. We have not much to add to Mr. Liston's account of it. We would merely observe, *that*, it not very unfrequently occurs independently of any ulceration in the groin or perinæum—and, *that*, it has seemed to us to occur under two sets of circumstances:—on the one hand, it may be developed as a consequence of injury, or of any disease in the neighbourhood, in persons of a tolerably strong habit, not obviously broken down in any way; on the other hand, (and this is the most common case) it presents itself, with or without apparent cause in the cachectic.

We hesitate to coincide entirely with Mr. Liston in the view he takes of its nature. We believe it to be diffuse inflammation of the cellular tissue of the scrotum, analogous to diffuse inflammation of the cellular tissue elsewhere. It is very true that the redness of the skin is not usually marked, though we never saw an erythematous suffusion absent—and that lymph and pus are not present if incisions are made early. But these circumstances may admit of explanation by the structure of the part and the habit of body which is usually present. This being commonly cachectic, the inflammation is of a low kind, and characterized by an abundant effusion of serum, and little vascularity. If incisions are not practised, we certainly have seen both lymph and pus beneath the skin, with sloughs of cellular tissue.

The effusion taking place into the spongy texture of the dartos, and into the loose sub-dartoic cellular membrane, unprovided with fat, and merely traversed by vessels, accounts for the rapidity and extent of the effusion. In a certain low condition of the bodily powers, inflammatory action coming upon such a part, serum is likely to be suddenly poured out into it, and the structure of that part, as well as the weakness of those powers, are little calculated to throw up a barrier of lymph, or to form pus with readiness.

In cases of stricture and of fistula perinei, it is often difficult to determine whether a sudden swelling of the scrotum depends on this affection, or on effusion of urine. No doubt, many cases of reputed effusion of urine from stricture, are really of this description. Fortunately, the treatment is much the same in both, early incisions constituting the pith of it.

Mr. Liston's cases rather prove, we think, our position. We will take a couple at random.

Case 1.—"J. A., aged twenty-three, a sailor. Admitted into the Edinburgh Royal Infirmary, March, 1834.

He had been shipwrecked on the coast of England, and exposed to the inclemency of the weather for many hours. He afterwards travelled on foot, towards the north, in great distress, scantily clothed, and badly fed. An abscess had formed near the verge of the anus, for which he applied for relief at the hospital. The opening of the abscess, which was anterior to the orifice of the bowel, and superficial, was somewhat enlarged. Two days afterwards the scrotum was found much swelled : the swelling had come on suddenly during the night. At the visit at twelve, A.M., there was a slight erythema of the perinæum, and the scrotum also was reddish, shining, and much distended, with a grey appearance at the lower and back part. Free incisions were made on each side of the septum, and slight sloughing of the skin and cellular tissue took place.

The after treatment consisted in the exhibition of antimonials, followed by bark, and the patient made a rapid recovery." 292.

Here after a slight operation, the scrotum swells suddenly, and is described as "reddish, shining, and distended," while the cellular membrane subsequently sloughs. Such circumstances would assuredly be deemed indicative of diffuse cellular inflammation elsewhere.

Case 2 (V.)—"S. H., a labourer, of spare habit. Admitted into the North London Hospital, May 19th, 1835.

The disease for the relief of which he applied to the hospital, was an abscess over the knee-joint, which was cured ; but, just before he was about to be discharged, he complained, for the first time, of slight pain and swelling in the groin: and, on examination, a small fistulous opening was discovered, surrounded by a blush of inflammation. He then said that the opening had existed for some time. The next day (May 28th) rigors took place; the skin was hot; tongue furred; bowels confined; and the erysipelatous redness extending over the groin and upper part of the right thigh, passing downwards to the scrotum. On the 29th the scrotum had become very much swollen, and was attended with discolouration at its most dependent part. The cellular tissue of the prepuce was also much infiltrated.

A free incision was made in the lower part of the scrotum, near the raphé, and the cellular tissue found in a state of gangrene. A small vessel was divided at the lower part of the incision, from which about ℥xv. of blood were allowed to escape. Fomentations were applied to the groin, poultices to the scrotum, and twelve leeches to the epigastrium, as he complained of slight tenderness in that region. Warm-water dressing was the next day applied to the wound; and, under this treatment, joined with purgatives, antimonials, and tonics, he recovered, and was discharged from the hospital on the 14th of June." 296.

Here the case is still more distinct. Erysipelatous inflammation spreads to the scrotum, and *then* comes on the peculiar affection of *that*. What can be more evident than the modification of inflammatory action by the special structure of the part? Erysipelas of the face when it invades the lids is particularly liable to occasion infiltration or abscess, or sloughing, because the cellular tissue of the lid is devoid of fat. Erysipelatous or diffuse inflammation, when it invades the scrotum, is particularly liable to occasion infiltration and sloughing there for a very similar reason. The lid is small and in many respects more favourably circumstanced than the scrotum, which influences the results.

Such is the view (it may be an erroneous one) which we are inclined to take of this affection. We conceive that the term diffuse inflammation of the scrotum would be preferable to "acute anasarca," which we cannot help thinking less applicable.

But whatever notion may be formed of the minor matter of name and nosological character, Mr. Liston equally merits our thanks for bringing the subject before the profession. Things are often known in a small circle and not known to the public. Whoever diffuses information deserves well.

VII. A CASE OF ANEURYSMAL TUMOUR IN THE ORBIT, CURED BY TYING THE COMMON CAROTID ARTERY. By GEORGE BUSK, Surgeon to the Seaman's Hospital, Dreadnought.

Mr. Busk has partially adopted the Horatian precept, and kept this case by him for three years, that time might sanction the expectations of success. It were well if all case reporters acted similarly.

Case.—A healthy seaman, aged 20, was admitted into the Seaman's Hospital, July 13, 1835, with severe concussion of the brain, following a blow on the right side of the head. A variety of symptoms followed, which we do not think it necessary to particularise, suffice it to say that there ensued onyx of the left eye, ulceration of the lower half of the cornea, small-pox, and great noises in the head.

About the latter end of January, the ulcer on the cornea was filled up, leaving an opaque cicatrix which occupied more than its lower half. Through the upper half, which had retained its transparency, he could see very well when the upper eyelid was raised. The globe of the eye was very prominent, and the eyelids were generally swollen; several large, tortuous conjunctival vessels were observed, passing to the lower edge of the cornea. On the 1st of February, when examining the eye, Mr. Busk, for the first time, perceived a distinct pulsation of the globe; and on more close investigation, detected also a firm pulsating tumor in the upper and inner part of the orbit, immediately within the superciliary ridge, and about half an inch in its transverse and longest diameter.

This tumor appeared to be situated between the levator of the eyelid and the bone, and was not evident externally; but when the eyelid was raised it caused some projection of the loose conjunctiva. The pulsation of the tumor was accompanied by a very distinct thrill, which could also be felt on pressing the parts in its immediate neighbourhood. Through a small ivory stethoscope a very loud whizzing sound was communicated; this could also be heard on applying the instrument over the inner canthus of the right eye, and on the left side of the frontal bone, as high as the roots of the hair, and nearly as far back as the ear. The eye felt hot and uneasy; but, otherwise, he had no pain, and complained principally of very loud noises in the head: those in the right ear like the sound of church bells, and those in the left, the breaking of waves on the sea-shore.

Mr. Busk adds:—

"As temporary pressure on the left common carotid put a stop to the pulsation in the tumour and eye, and to the accompanying sounds, as well as to the noises in the head, it appeared clear that they all depended on a common cause, and that, probably, an aneurism of some vessel within, or close upon the orbit. I was not at the time aware of the two similar cases to which I shall afterwards refer; but entertained no doubt as to the propriety of treating this like an aneurism in any other part, and of tying the left common carotid. Twenty ounces of blood were taken from his arm the same evening; and, on the following day, February 2, the carotid was tied in the usual place and manner. Immediately on tightening the ligature, the pulsation of the tumor, and that communicated to the globe, ceased, together with all the sounds, both internal and external. In the evening, four hours after the operation, obscure pulsation could be felt in the tumour, which had not however resumed its original size. The whizzing sound could also be plainly heard through the stethoscope, and over the same extent of surface as before the operation. The internal noises were also, at intervals, nearly as loud as before, but were sometimes absent. There was no pulsation in the temporal artery. He complained of pain in swallowing. Pulse 110. An opiate was given, and an evaporating lotion applied to the face and head.

The next morning the pulsation was very obscure, and the sounds much diminished. He had not slept, and complained much of pain on deglutition and on coughing, and of severe pain in the left hypochondrium. Pulse 120, sharp. A bleeding of sixteen ounces afforded immediate relief, and in the evening he was easier in every respect. On the 4th no remains of the tumour could be felt, and all pulsation was gone from the orbit, nor could any sound be heard by means of the stethoscope. The internal noises were also quite absent, and his hearing was somewhat improved. Pulse 100 soft; skin moist; and tongue clean.

On the 6th the eye appeared less vascular than before the operation, and was not so prominent. He had occasionally some noise in the left ear, but none in the right. A small quantity of grumous blood passed from the left nostril during the night. On the 11th the eye was still more retracted within the orbit, and there was no pain nor pulsation. He sat up several hours. On the 15th the ligature came away, and on the 18th his state is thus noted:—The wound was much contracted; the eye hardly prominent and much less vascular. The ulcer in the lower half of the cornea filled up, leaving a dense leucoma, to which ran a large tortuous vessel. Vision perfect as far as the loss of transparency of the cornea would allow. There was no pulsation, nor any noises. Pulse 70; soft; appetite good; no pulsation in the temporal artery. The paralysis of the left side of the face and muscles of the globe continued complete; but sensation was perfect except on the left side of the nose; and he was more deaf in the left ear than in the right. From this time no material change took place, up to the time of his discharge from the hospital, on the 28th March 1836. He complained almost constantly of pain, commencing about the infra-orbitary foramen, and extending towards the nose, which was in some degree relieved by the use of veratria." 130.

He returned to his occupation as a seaman, made a voyage to Quebec, no trace of tumor or pulsation could be detected in or about the orbit, and no pulsation could be felt in the carotid or any of its branches.

After alluding to several cases more or less similar, Mr. Busk, in a note, mentions one which occurred to Mr. Scott, at the London Hospital, of a parallel character to this.

Case.—A boy, William Cooper, who had fallen into a ship's hold, was brought to the London Hospital, October 2nd, 1834, with concussion of the brain, violent contusion and swelling on the right side of the head, and protrusion of the right eye, which was fixed and motionless, the pupil dilated and vision lost. There were no symptoms of cerebral pressure.

He gradually recovered from the concussion of the brain, the eye becoming gradually more prominent. The protrusion of the globe immediately after the accident, without symptoms of cerebral compression, proved that it arose from extravasation of blood within the orbit, and the further continued protrusion rendered it probable that the aperture in the vessel from which the blood escaped had not closed:—the symptoms were not so acute as to indicate suppuration. As the globe became more prominent, pulsation was felt on pressure, and when the palpebræ were separated, the eye could be distinctly seen to be propelled forward at each stroke of the heart.

Pressure was made on the globe; but, after being borne for two days, it occasioned so much pain that it was abandoned. On Tuesday, November 10, just after examining the eye, a profuse arterial hemorrhage occurred from the nose. Mr. Scott commanded it by pressure on the common carotid artery, and immediately secured that vessel. The protrusion of the globe directly receded in a great degree, and its prominence afterwards gradually diminished.

Mr. Busk is inclined to believe that these are instances of true aneurysm, rather than of erectile tumors, and for these reasons:—

"1. The sudden accession of the disease attended with pain.
2. Its rapid increase.
3. The powerful pulsation occurring in the tumours when recent and small; in all of which circumstances do they differ from the erectile tumours as des-

cribed by Mr. John Bell under the name of aneurism by anastomosis; and when to this is super-added the strong aneurismal whizzing sound, which was heard over so extended a space in the present instance, and which may possibly have existed in the others, as they were attended with similar internal noises, the presumption of the affection being in all really an aneurism of some vessel in the orbit, appears to me materially strengthened; and Mr. Guthrie's case may possibly lead to the supposition of the ophthalmic artery itself being the seat of the affection.

The success of the treatment by ligature of the carotid cannot be adduced as further proof of the correctness of this view, since the same success attended that operation for an undoubtedly erectile tumour of the antrum in the hands of Mr. Pattison; for an external nævus in one of these cases in which it was employed by Mr. Wardrop." 134.

VIII. Statistical Notices of One Hundred and Twenty Cases of Carcinoma Uteri, with Remarks. By J. C. W. Lever, Esq.

Mr. Lever makes some observations on the value of the numerical system, as a test of the correctness or erroneousness of our opinions, observations too accordant with the general tenor of our own, to make it requisite for us to quote them.

Mr. Lever has selected as the subject matter of this paper, cases of undoubted "Carcinoma," a disease which never fails to develop its malignant and fatal termination. It occurs, he tells us, more frequently than at first thought we might be led to expect; the registers of the obstetric out-patients of Guy's Hospital show that the proportion of cases of carcinoma uteri to cases of other uterine diseases, is nearly as 1 in 7, or 13·5 per cent.

Age.—The period of life most obnoxious to the disease is from the 40th to the 50th year. For, there were:—

Between 25 and 30 years	3·3 per cent.
30 — 35	15·
35 — 40	10·83
40 — 45	20·
45 — 50	20·
50 — 55	13·3
55 — 60	14·16
60 — 65	0·83
65 — 70	1·6
70 — 75	0·83.

Condition.—Single women bear a proportion of 5·83 per cent., married women 86·6 per cent., and widows 7·5 per cent., affording a complete refutation of the statement, that celibacy favours the development of the disease.

But are there not many more married than unmarried women between the ages of 40 and 50? If there are, that would materially affect the calculation.

Ages at Marriage:—

34·16	per cent. married between the ages of	15 and	20
36·66	.. ..	20	25
20·83	.. ..	25	30
1·66	.. ..	30	35
0·00	.. ..	35	40
0·83	.. ..	40	45

Number of Children.—The number of children produced by 113 married women amounted to 596, of whom 301, or 50·51 per cent., were boys, and 295, or 49·49 per cent., were girls. If from these 113 married women, we deduct 10 who had borne no children, we have 103 bearing women, to produce 596 children, rather more than 5¾ to a marriage. One of the sterile women married under 20 years of age, seven under 30 years; one under 40 years, and one at the age of 44 years. Ten barren women out of 113 will amount to 8·8 per cent. This per centage exceeds the average of barren women, for it has been found that 1·20th, or 5 per cent., of married women, are wholly unprolific.

Abortions.—Forty per cent. of the females had miscarried. The collective total of their abortions were 122, an average of rather more than 2·54 to each woman. Adding the miscarriages to the number of children born, we shall have the number of conceptions, and we shall find, that out of 100 conceptions, the abortions were nearly 17, or, more correctly, 16·8.

Complexion.—The number of light complexioned women affected with this malady, amounted to 20·8 per cent., while those who are recorded as being of dark complexion, amounted to 79.16 per cent.

State of Uterine Health in early Life.—Only 25 women, or 20.8 per cent., had enjoyed good uterine health in early life, while 95, or 79·16 per cent., had suffered either from (what is termed) functional disease, or syphilis. The most frequent malady was dysmenorrhœa, with which no less than 66 had been afflicted.

The proportions stand thus:—

	per cent.
Those who had had good uterine health	20·8
Those who had suffered from amenorrhœa	15·8
Vicarious menstruation ..	0.83
Menorrhagia	1·66
Dysmenorrhœa..........	54·16
Syphilis	6.6

Duration of the Disease, and Termination.—Death occurred in 107 cases, the average duration of the diseases being 20¼ months. The shortest duration of the disease was 3 months, the longest 66 months. In single women the average duration of life was 21·66 months; while in married women, who had borne no children, it was 21·3 months. In females who in earlier or later life had suffered from dysmenorrhœa, the average duration was 19·7 months; in those who had suffered from syphilis, 21 months; from amenorrhœa, 22·9 months, while in those who in early life had enjoyed good uterine health, it was 22·59 months.

Mr. Lever adds:—

"In six patients only have I been able to trace the existence of carcinoma in the maternal parent, four were affected with carcinoma uteri, and two with carcinoma mammæ; this, however, must not be regarded as an average or proportional number, for many women could give no account of their parents, while others stated their mothers to have died from diseased womb, without being able to state the precise disease." 272.

A valuable paper, which induces us to hope that Mr. Lever will continue to pursue, and not forget to promulgate, his researches.

IX. CASES OF MEASLES, OCCURRING OFTENER THAN ONCE IN THE SAME INDIVIDUALS. By JOHN WEBSTER, M.D., Consulting Physician to the St. George's and St. James's Dispensary.

Though, in the great majority of cases, measles attack the same individual only once in his life, yet several exceptions to this law have been recorded, and Dr. Webster communicates two which occurred under his own observation, with one which was seen by Dr. Forbes.

Case 1.—Master F. H., in the early part of 1837, being then two years old, had a regular attack of measles, along with his elder brother and a cousin, all then living in the same house. I attended him throughout the disease, which exhibited the usual and unequivocal symptoms of that complaint: the eruption was well marked, copious, and continued apparent on the skin for the ordinary period; whilst the affection of the eyes, of the air passages, the cough, and the violence, as well as the duration of the febrile symptoms, placed the nature of his malady beyond any doubt; from which however, in due time, my patient recovered completely, by ordinary antiphlogistic treatment.

On the 23rd of March last, that is, about two years after the first attack of measles, Master F. H. became restless and slightly feverish; but it was only two days afterwards, or the 25th, when an eruption having appeared on his neck and face, the exact character of this patient's complaint remained no longer doubtful. He now had considerable fever, with quickness of pulse, along with the commonly remarked catarrhal symptoms, such as discharge from the nose, watery eyes, and slight cough; he complained likewise of thirst, and he had a foul tongue. On the 26th the eruption continued copious on the arms, legs, and body, at the same time appearing in clusters, slightly elevated, and quite characteristic of its nature; the face, also, was now a little swelled, whilst the catarrhal affection remained; and had any uncertainty yet existed, regarding the nature of this eruptive disease, it would have been entirely removed from the mind of the most sceptical observer by examining a case exhibiting, as this one did, so many well-marked symptoms. The eruption, on the 27th, became less evident; and, by the evening of the 28th, it had almost disappeared, the patient being otherwise much better. On the 29th, Master F. H. was nearly convalescent; and, by the 31st of March, he got quite well." 248.

Of the next instance we may content ourselves with remarking, that the patient, a young lady, passed through the measles at Madras, in 1826, when four years old—a second time, at Blois, in 1832—and a third time, under Dr. Webster's personal inspection, in London, in 1837.

Dr. Forbes attended Lord ———, then ten years old, for measles in 1835, and in 1839, he attended him for measles again.

X. REMARKABLE CASE OF DRY GANGRENE, OCCURRING IN A CHILD THREE YEARS AND SEVEN MONTHS OLD. By SAMUEL SOLLY, F.R.S. &c.

Case.—On the 29th January, 1839, Mr. Solly visited, with Mr. Bury, of Farnham, William Chandler, aged three years and seven months. He had been weakly from birth. His father is a bargeman, earning about a pound a-week. His mother was a healthy-looking woman, but delicate; she has had four children, the eldest seven years old, perfectly well; the second died at two months; the third, William Chandler, is the subject of the case; the youngest was weakly, and since dead. The general food of the family has been bread and potatoes, with meat two or three times a-week.

Mr. Solly thus describes his state:—

" His right fore-arm was gone, having been partially amputated by nature at the elbow-joint by the disarticulation of the radius, though the ulna had been divided lower down, opposite a point which might be seen in the detached radius, as at that place the bone was thinner, a portion of its surface having been removed by absorption, where the line of separation had first commenced. The slough had extended above the elbow-joint, where nature appeared to be making a second attempt at amputation, from the distinct though comparatively pale line of ulceration between the living and dead portions of the limb.

The whole of the left fore-arm, and about half the upper arm, was in a state of dry gangrene; but there was a distinct line of separation in the upper arm.

The foot of the left leg was completely removed just above the ankle-joint, between the epiphysis and the shaft of the tibia and fibula, leaving the extremities of the bone exposed, the soft parts presenting a surface healthy and granulating in one part, but sloughy in another.

On the right foot the phalanges of the second and third toes had been removed by the same unsparing hand, the stumps having a healthy cicatrix; but on the calf and knee of the leg there were livid spots. Such was the extraordinary appearance of this poor little child the first time I saw it. The pulse in the carotids was 140, feeble, easily arrested, but distinct to the eye.

The action of the heart more feeble than natural, but unaccompanied by any unnatural or irregular sound. The mother observed that, when every thing was quiet, at night, it sounded as loud as the ticking of a watch.

The intellects were perfect, and the child, on the whole, wonderfully quiet and tranquil, but complains much of feeling cold unless close to the fire. From the mother's account I learned that the disease commenced at the latter end of last August, both his feet becoming of a blackish purple colour; that hot flannels relieved them only for a short time; sloughs, called by the woman *set-fasts*, began about the beginning of September, on the right leg first, above the heel. These sloughs separated. The sore healed in about a month; that on the left leg never healing, but gradually extending over the foot, and a line of demarcation was ultimately set up. Amputation gradually took place, and the limb was entirely removed by December the 30th.

The disease commenced in the left upper arm, about the middle of November, on the dorsal surface of the wrist. It followed on the right about a fortnight afterwards, commencing below the elbow, and the ulna was divided on the 18th of January; but nature, apparently not being able to effect the amputation perfectly in that spot, recommenced above it. And the radius, together with the hand, was separated at the elbow joint on the 26th January. I could not ascertain the date of the amputation of the two toes on the right foot." 258.

The left arm separated on the first of February, about midway between the shoulder and elbow. The soft parts of the right arm came away on the 5th instant. The dead parts attached to the left leg were thrown off on the 18th. The reparative process proceeded well, and Mr. Solly writes thus:—

"On the 22nd of April I again visited the case. When I found, to my astonishment, that nature, unassisted by the surgeon, had amputated the three extremities, and formed stumps, which might shame many formed by the operator's knife. The stump of the right arm was as perfect as could be desired; the bone in the left projected slightly, but was in the course of removal by absorption. The stump of the left leg was nearly healed, with a very slight granulating projection opposite the bone. The child's health was much improved, his spirits good, and he was freer from pain.

In this case the progress of the disease seems to have been identical with that which is usually observed in senile gangrene; for instance, its first appearance was a dark coloured spot, unaccompanied with pain or swelling, or increase of heat in the part; and very slight redness at the line of demarcation, between the healthy and diseased portions of the limb.

Dr. Carswell, in his admirable article 'Mortification,' in the Cyclop. of Medicine, observes, 'that it is stated, by pathologists, that this form of mortification sometimes occurs in young persons;' but that he himself has never seen it in young persons, and considers it a statement which has not been supported by facts, and I have not myself been able to meet with any case which bears any analogy to it." 266.

A striking case certainly.

XI. CASE OF CONGENITAL ABSENCE OF THE PERICARDIUM, WITH OBSERVATIONS. By T. B. CURLING, Assistant Surgeon to the London Hospital.

Case.—The subject of this uncommon malformation was a gardener, aged forty-six, who was admitted into the London Hospital under the care of Dr. Gordon, January 28th, 1839. After exposure to wet he had been seized with symptoms of paralysis, which commenced in the lower extremities, and gradually extended upwards until, the muscles of respiration becoming affected, asphyxia ensued, and he died on the 18th of February. He had previously enjoyed a good state of health, but, before the age of puberty, had been subject to attacks of profuse epistaxis. Nothing remarkable was observed in the action of the heart, or in the pulse.

"The main morbid appearances consisted of ramollissement of the central part of the whole medulla spinalis, deep injection of the mucous membrane of the bladder, and prostatic and membranous parts of the urethra, suppuration of Cowper's gland, and deposits of lymph in the substance of the testicles, with adhesions of the tunica vaginalis. On opening the cavity of the chest, by raising the sternum with the costal cartilages, I was much astonished at finding the heart completely exposed, lying loose in the cavity of the left pleura, in immediate contact with the lung, without any appearance whatever of pericardium. The heart was rather large and flabby, and in its natural position in the chest. On the anterior part of the left ventricle there was a small white opaque patch, and there was another of larger size on the posterior surface of the right ventricle. Nearly the whole front of the right ventricle was coated with a layer of fat. The vessels connected with the heart exhibited nothing remarkable, their relation being perfectly natural. On introducing the little finger into the aorta, its valves appeared to be healthy. The heart was a little overlapped by the anterior edge of the inferior lobe of the left lung, to which it was connected by a slight adhesion about a quarter of an inch in length. The pleura covering that part of the left lung in contact with the heart, was opaque, white, and thickened. The pleura was easily traced from the left lung, along the large pulmonary vessels, to the heart, which it invested so as to form a reflected pericardium, thence passing over the pulmonary vessels on the right side, and the commencement of the aorta, it went forwards to join the pleura costalis, being at first in close relation to the right pleura, to which it was connected by loose cellular tissue, but afterwards separating to leave space for the anterior mediastinum. On the right side of the heart, just above the junction of the inferior vena cava, and close to the diaphragm, there was a pouch in the serous membrane, with a defined margin inferiorly, into which the appendix of the auricle projected. The left phrenic nerve crossed the trachea opposite the first bone of the sternum, and, passing to the front, and rather to the right side of the heart, proceeded to the diaphragm along the anterior mediastinum. The right phrenic nerve passed between the two layers of the separate pleuræ, about two inches behind the left. The lungs were healthy, with the exception of a little emphysema at the margins of the lower lobes. There was an old adhesion half an inch wide, connecting the outer part of the upper lobe of the left lung to the pleura costalis."

This account is very explicit and satisfactory.

XII. CONTRIBUTIONS TO THE PATHOLOGY OF THE SPINAL CORD. By WILLIAM BUDD, M.D.

The object, a laudable one, of Dr. Budd, is to illustrate the operation of the "reflex function" of the spinal marrow in man, in the same way as it is exhibited in decapitated animals. This he does by a series of cases.

Case 1.—John Lang, aged 43, and of temperate habits, without known cause gradually became crooked in the back, and paraplegic, at the age of 18; but regained perfect use of his limbs at the end of two years. The paralysis returned twice; first after an interval of twelve years, and again after two more: each time it followed protracted exertion, but did not continue longer than a few weeks. It returned for the fourth time, and had continued fifteen months, when Dr. Budd first saw him. The curvature of the spine had not increased since the first illness, and in the intervals mentioned the health was quite good. There never had been, nor was there subsequently, any indication of abscess. In the first three attacks sensation was nearly extinct in the palsied limbs, but they had never exhibited involuntary movements. Dr. B. first saw him in July, 1836; and between that time and April, 1837, visited him many times, and took the following notes of his case:—

"Sensation in the lower half of the body begins to fail at the umbilicus, and is very much impaired immediately below it: in the lower extremities it is nearly extinguished; when these are smartly pinched, the patient perceives the nature of the act, but the sensation is very feeble. Has no power of voluntary motion over his lower extremities; once or twice, while he was making strong efforts of the will, I observed a very limited motion of the great and second toes; but had I not watched very narrowly, these movements would have escaped my notice: after having occurred once, or at most twice, he could not repeat them.

These are the only voluntary movements of the lower extremities which the patient can execute. When, however, any part of the skin is pinched or pricked, the limb that is thus acted upon jumps with great vivacity: the toes are retracted towards the instep, the foot is raised on the heel, and the knee flexed so as to raise it off the bed: the limb is maintained in this state of tension for several seconds after withdrawal of the stimulus, and then becomes suddenly relaxed. Once or twice, while the left leg was thus excited, the great and second toes of the right foot were simultaneously drawn towards the sole: the converse never occurred, and, in general, while one leg was convulsed, its fellow remained quiet, unless stimulus was applied to both at once. The contractions excited by stimulating the left leg are uniformly more vigorous than those excited in the right by a like stimulus. In these instances, the pricking or pinching was perceived by the patient; but much more violent contractions are excited by a stimulus of whose application he is perfectly unconscious.

When a feather is passed lightly over the skin in the hollow of the instep, as if to tickle, convulsions occur in the corresponding limb much more vigorous than those induced by pinching or pricking; they succeed one another in a rapid series of jerks, which are repeated as long as the stimulus is maintained. In these experiments the patient is quite unconscious of any thing touching his limb. When asked if he feels anything, his invariable reply is, 'No, I feel nothing, but you see my leg feels well enough.' When any other part of the limb is irritated in the same way, the convulsions which ensue are very feeble, and much less powerful than those induced by pinching or pricking. No movements are excited in his lower extremities by tickling any point in the upper half of his body, though such tickling occasion laughter.

Convulsions, identical with those already described, are at all times excited by the acts of defecation and micturition. At these times the convulsions are much more vigorous than under any other circumstances, insomuch that the patient has been obliged to resort to mechanical means to secure his person while engaged in these acts. To this end two large loops of saddlers' webbing are nailed to the floor; into these the feet are inserted; while two longer loops, also nailed to the floor, are adjusted over the knees as soon as the patient is placed on the night-stool: an attendant is also required to hold down the thighs. During the act of expulsion the convulsions succeed one another rapidly, the urine is discharged in interrupted jets, and the passage of the fæces suffers a like interruption. The convulsions become more feeble towards the completion of the act, and the stream of urine becomes continuous. In the case of making water, the convulsions are uniformly more vigorous the more the bladder is distended. When sufficient precautions had not been taken to secure his person, it had occurred to the patient to be thrown violently forwards on the floor. The passage of urine is felt by the patient, but the sensation is of a smarting kind. Slight involuntary contractions occur in the legs whenever the bladder is distended, and also when the desire to relieve the rectum is manifested. In all these circumstances, the convulsions are perfectly involuntary, and he is unable, by any effort of the will, to control or moderate them. The passions have no power of exciting convulsions. After the lower extremities have been much excited a sense of tingling in them is experienced. Motility and sensation in the upper half are unimpaired, and quite natural. Appetite and digestion pretty good; loss of flesh inconsiderable, and not progressive; nutrition of the legs good." 158.

In the Spring of 1837, Lang regained voluntary power in his lower extremities, with some increase of sensation. As voluntary power augmented, the susceptibility to involuntary movements, and the extent and power of these diminished.

Dr. Budd observes:—The interest of this case lies in the coincidence of these two circumstances: total loss of voluntary power in the lower extremities,—involuntary muscular contractions, excited by application of stimulus to the skin or mucous membranes. There can be no doubt that these contractions were of the same nature, and excited by the same process as those observed in a decapitated animal. Although sensation was never quite extinct in Lang's lower extremities, it was evidently not concerned in the production of the involuntary contractions; for when an artificial mode of stimulus was employed, the convulsions were uniformly the most vigorous in that case in which the application of it was not felt by the patient, namely, when the hollow of the foot was lightly touched with a feather. Here then we have oral evidence from the subject of experiment, that these acts are quite independent of sensation and volition. The fact that such vigorous convulsions were excited by touching the hollow of the foot with a feather, is of great interest, and tends to show that the nerves which transmit these impressions to the spinal marrow are,—if not the same with those of true sensation,—most actively excited by a stimulus which produces strong impressions on the sensitive nerves. Every one knows how urgent is the sensation of tickling in the hollow of the foot.

In a case, somewhat similar, (Dr. Budd's *second*) the convulsions caused pain.

Case 3.—A sailor, aged 17, who had been struck on the back by a boom, presented these symptoms:—

Sensation in the lower extremities unimpaired; voluntary motion abolished in these limbs, which are rigid, from permanent contraction of the muscles. The legs are sometimes extended, sometimes bent upon the thigh, and the transition from one condition to the other is quite involuntary. When these limbs are in extension it requires great force to bend them in the slightest degree; and when that force is withheld, they immediately return to their former position; the converse holds when the legs are flexed. When any part of the skin of the lower extremities is pinched, the corresponding limb jumps with great vivacity; if previously in extension, it momentarily assumes a state of flexion, and *vice versâ.* Occasionally, when one leg is thus excited, its fellow is, at the same time, similarly affected, but not so powerfully. The muscular contraction thus excited is very powerful; it is quite involuntary, and cannot be modified in any way by influence of the will. When any other part of the body is pinched no analogous movements are induced; but when the patient voids his urine, both legs are always affected in the same way as by pinching their integument. When the legs have been much stimulated by pinching, they become affected with a quivering motion, which lasts some minutes: this also occurs after micturition; no pain whatever in the legs, nor sense of fatigue; calves stout and developed;

dejections voluntary. There is curvature of the spine, formed by prominence of the dorsal vertebræ, from the fourth to the ninth, inclusive. Motility and sensation perfectly natural in all parts of the body, other than the lower extremities. General health not much impaired. Soon after this the legs became less rigid, and on the 24th of March were observed to be quite placid; convulsive movements could still be excited, by pinching or tickling, but were much more feeble than before.

He died of phthisis, about eight months after receiving the injury.

Dissection —Prominence of the dorsal vertebræ from the 5th to the 9th, inclusive—laminæ somewhat softened, especially on the right side—a little pus external to the dura mater—dura mater there dark and vascular, distended with serous fluid below—diameter of the cord small there—vessels of the pia mater congested above and below the curvature.

The cord itself was of natural size; and a portion, about two inches in length, corresponding to the curvature, softened in the posterior columns. The tissue was not difluent, but became flaky and partially dissolved, when a small and gentle current of water was poured on it. This did not happen when a like current was similarly directed on other portions of the cord. This breaking down of the tissue was much more marked in the posterior than in the anterior columns, which were scarcely, if at all, softened, and resisted considerable traction. After the arachnoid had been removed, the posterior columns had still sufficient consistence to retain their form.

The affected portion was quite white, exhibiting no vascularity or bloody points. The nerves within the vertebral sheath, arising from the softened part, were firm, and of natural appearance. The cord, above and below, perfectly healthy, firm, and of good colour. When the contents of the chest were removed, an abscess was found, surrounding the bodies of the diseased vertebræ, its anterior wall being formed by the aponeurosis of the vertebræ.

We think it cannot fail to strike the reader that the *posterior* columns of the medulla were diseased, while sensation was *unimpaired.* How this quadrates with our notions of the functions of those columns, we do not clearly perceive.

Extensive reflex actions, Dr. Budd goes on to state, are the most striking symptoms of apoplexy of the pons varolii. M. Cruveilhier quotes a case from Ollivier.

> " A man, at work in the fields, complains all at once of acute pain and buzzing in his ears. He immediately runs off, as if to escape from threatened danger. He drops, and there is loss of consciousness; frequent, irregular, and noisy breathing; sometimes stertorous. He sneezes twice with violence; there is stiffness and convulsions of the limbs, alternating with a state of collapse; froth at the mouth, and an epileptiform condition. He dies at the end of five hours, and was not observed the last two. It was not determined whether or not sensation was abolished, but a convulsive movement of the right arm was observed when the skin of that limb was pinched, and a similar movement at the moment when the integuments were pierced in venesection." 167.

On examination after death, the pons varolii was found converted into a sac, full of blood, in part coagulated. The blood had found its way to the surface of the pons by a small lateral opening, and also into the fourth ventricle, which was distended with it.

M. Ollivier states that he has since seen many cases of apoplexy of the pons, at the moment of attack, and has always remarked convulsions of the extremities.

Dr. Budd relates an interesting but a long case, too long indeed for our pages, and too closely connected in its details to admit of useful condensation. But we must observe that, to our mind, it goes far to prove the imperfect condition of the theory of "the reflex function," a theory which we fear is yet to be established in many particulars, and is scarcely adequate to the explanation of all that it professes to embrace.

Dr. Budd reports another case, highly interesting also. But we must pass by its details and content ourselves with the summary he furnishes of the principal facts contained in all the cases, and of the inferences that may be drawn from them.

1st. That the involuntary movements excited in the palsied limbs, were the same in kind as those observed in decapitated animals.

2nd. That these movements were quite independent of sensation, and that they varied in extent and force, inversely with the degree of voluntary power possessed by the affected limbs; being the most forcible when the loss of voluntary power was complete, and diminishing gradually in extent and force as that power increased.

3rd. Irritating one leg generally caused movements in that leg only; in some cases it caused movements, but more feeble ones, in the other leg also, and in the arms when they too were paralysed: facts completely analogous to those observed in decapitated animals.

4th. Impressions on the soles were more efficient than any that were tried on other parts of the skin in exciting involuntary movements; and heat, although not producing sensation, was a powerful means of excitement.

5th. In one case, impressions on nerves arising above the seat of injury, excited convulsions in parts receiving their nerves from below; a fact which proves, that influences from impressions received on incident nerves, at any point, are diffused through the cord. This leads Dr. B to remark that convulsions are rarely, if ever, spontaneous, in the strict sense of that word, for the multitude of impressions constantly received on the surface, especially in the mucous membranes, are probably sufficient, when the motor function of the cord is much exalted, to excite all those convulsions usually called spontaneous.

6th. That the convulsions observed were not associated with a sense of fatigue, but that the power which caused them was subject to exhaustion, and renewed by rest. In cases of injury to the spine, some time elapsed before the palsied parts exhibited involuntary movements; this was probably owing, in some measure, to concussion of the cord, for in decapitated animals these movements may be instantly excited.

7th. Strychnia given internally increased the susceptibility to involuntary movements, and caused spontaneous convulsions that were limited to the palsied parts.

Prussic acid, as well as tincture of digitalis had a decided effect, in one case, of suspending or quieting spontaneous convulsions.

8th. That the dependence of priapism on distention of the bladder, observed in one case, tends to show that external impressions may be reflected by the spinal cord, so as to excite organic processes,—such as, vascular turgescence,—in the same manner as to excite muscular contractions.

Dr. Budd makes some curious concluding remarks:—

"I shall now notice a circumstance in the pathology of tetanus, which gives that disease a link of connection with the preceding cases, and which has been overlooked by many physicians, and has received from none the attention it deserves: I allude to the fact that the convulsions of tetanus, when already present are rendered much more powerful by impressions made on the skin or senses, and when absent, as in the intervals which usually occur, may invariably be excited by such impressions. The fact is stated by Dupuytren in his 'Leçons sur les plaies par les armes à feu,' in the following words:—

'L'intelligence des malades reste ordinairement saine; rarement il survient du délire. Cependant la sensibilité est très developpée, et à mesure que la maladie marche, on la voit s'accroitre de plus en plus, et se monter à tel point que le moindre bruit, la moindre sécousse, les plus faibles émotions suffisent pour la mettre en jeu et faire entrer le système nerveux, et le système musculaire qui est sous sa dépendance dans un état de convulsion.'

It is therefore of great importance in the treatment of this disease, to avoid multiplying impressions, especially those of a painful kind. In this point of view, the practice of applying leeches repeatedly, and in great number, is very objectionable, for it is not questionable that the evil here alluded to is not compensated by any ascertained advantage. Repeated cupping, blistering, and also repeated purging—means often employed—are open to the same objection. While on this topic, I may be allowed, also, to question the propriety of giving opium in the treatment of tetanus. It has been ascertained that the effect of that drug is to excite, and not quiet, the motor function of the spinal cord; indeed, it is well known that the motor acts of the cord may be rendered much more active and powerful by giving, before decapitation, opium to animals that are to be subjects of experiment. Believing that, after ample trial, experience has not established any advantage in the use of opium, I consider these objections, furnished by theory to be motives sufficient for its future exclusion from the treatment of tetanus. If in the choice of remedies we are to be guided at all by physiological considerations, it is much more rational to seek for remedies for tetanus in that class of substances known to exercise sedative influence on the motor function of the cord. I may mention hydrocyanic acid, conium, and digitalis, as deserving more ample trial than has yet been given them.

Hitherto, the treatment of tetanus has been conducted in violation of all known physiological principles: it is to be hoped that our improved knowledge of the functions of the spinal cord will at length lead us to the discovery of more successful methods." 190.

We are not sure that Dr. Budd's condemnation of opium and of purgatives is quite fair, or, in point of fact, quite correct. If there are two plans of treatment which have proved more successful in chronic tetanus, that is, in curable tetanus, than others, they are—purgatives, and calomel and opium. Nay, we would almost venture to affirm, that opium has been as successful in acute tetanus as any other drug, which, though certainly it does not say much, yet says something in its favour. The hydrocyanic acid, which acts on physiological principles, has been anything but untried, though, as far as we know, it has not proved more serviceable than its rivals.

Dr. Budd reprobates the application of leeches. Certainly local and general depletion have both failed, probably because the hypothesis of inflammatory action on which they were employed, is a deceptive one. But were the convulsions of tetanus attended *with* vascular action, that is, were there any indication for leeches, we should hesitate to discard them in obedience to the excito-motory doctrine, and because they might prove excitants of the convulsions. We suppose that in the convulsions dependent on cerebral congestion in children, leeches would, theoretically, be open to a similar objection; practically, they are useful. It is probable that the general principles which regulate our treatment should, in the present state of the excito-motory hypothesis, be paramount in the application of remedies.

XIII. MEMOIRS ON SOME PRINCIPLES OF PATHOLOGY IN THE NERVOUS SYSTEM. By MARSHALL HALL, M.D. F.R.S. &c.

Anything which falls from Dr. Hall on the subject of the nervous system deserves and will receive attention. The memoir before us is on the—

Condition of the Muscular Irritability in Paralytic Limbs.

Dr. Hall observes:—

"The utmost discrepancy of opinion prevails amongst physiologists and medical writers upon this subject. Prochaska, Nysten, and Legallois state, that the irritability of the muscular fibre remains in paralytic limbs; whilst Professor Müller and Dr. Sticker assert the contrary. No attempt has been made to reconcile a contradiction not very honourable to our science. To explain this discrepancy of opinion is one of the objects of this communication.

The authors to whom I have referred, misled by the generic term and idea of paralsyis, have not sufficiently distinguished between its different species. Yet it will be found, as we proceed, that this distinction is of the utmost importance in the explanation of the phenomena. In fact, cerebral paralysis, or that which removes the influence of the brain, and spinal paralysis, or that which removes the influence of the spinal marrow, are in totally opposite conditions in reference to the irritability of the muscular fibre in the limbs severally affected; facts equally obvious in experiments and in clinical observations." 192.

After quoting the experiments and the opinions of Nysten, Prochaska, Fouquier, and Müller, Dr. Hall dwells on the fact that the convulsive movements occasioned by strychnine are frequently first displayed by the paralytic limbs.

"I figured to myself the fact of the strychnine acting on the spinal marrow, and diffusing its power equally along the nerves, to the right hand and to the left, to the muscles to which they proceed respectively; and I asked myself the question—Is the difference observed in its ultimate effects on those muscles, the power being obviously the same, owing to a difference in the degree of the irritability of the muscular fibre itself? Is the irritability of that fibre actually augmented? If so, the phenomenon would be explained!

I waited with anxiety for opportunities of submitting this question to the decision of experiment. This I entrusted, in the first instance, to my young friend and intelligent pupil Mr. Dolman. The result was as I anticipated. A little child, aged two years, was perfectly paralytic of the left arm. The slightest shock of galvanism was directed to be applied which should produce an obvious effect. It was uniformly observed that the paralytic limb was agitated by a degree of galvanic energy which produced no effect on the healthy limb.

A similar patient, with paralysis of one leg, was subjected to the same experiment by my friend and former pupil Mr. W. F. Barlow, and with the same result.

I repeated the trial on several patients affected with hemiplegia, at my own house, uniformly with the same event: the paralytic limbs were always moved by an influence which was lower than that required to affect the healthy limb, or if both limbs were agitated, it was uniformly the paralytic limb which was more shaken than the other.

I next repeated my observations upon a more extensive scale, at the St. Mary-le-bone and St. Pancras infirmaries. There were two exceptions to the rule; whilst the numbers in which the phenomena already described were observed, were considerable." 201.

Dr. Hall next details some experiments performed by himself. They were made on six frogs. He divided the spinal marrow immediately below the origin of the brachial plexus, and removed a portion of the sciatic nerve of the right posterior extremity. The following were the results.

1st. The anterior extremities alone were moved spontaneously; both posterior extremities remaining entirely motionless, when the animal, placed on its back, made ineffectual efforts to turn on the abdomen.

2nd. Although perfectly paralytic in regard to spontaneous motion, the left posterior extremity, that still in connexion with the spinal marrow, moved very energetically when stimulated by pinching the toes with the forceps.

3rd. The right posterior extremity, or that of which the ischiatic nerve was divided, was entirely paralytic, both in reference to spontaneous and excited motions.

4th. After the lapse of several weeks, whilst the muscular irritability of the left posterior extremity was gradually augmented, that of the right was gradually diminished, phenomena observed when the animal was placed in water, through which a slight galvanic shock was passed accurately in the direction of the mesial plane.

" In this interesting experiment," says Dr. Hall, " we have, then, first the phenomena of loss of spontaneous motion on removing the influence of the brain, the excited or reflex actions remaining; and the loss of these on removing the influence of the spinal marrow; secondly, in the case of mere cerebral paralysis, we have augmented irritability, and in that of the spinal marrow we have the gradual diminution of this property." 202.

5th. Strychnine being now administered, the anterior extremities and the left posterior extremity, or that still in connexion with the spinal marrow, became affected with tetanus; but the right posterior extremity, or that severed from all nervous connexion with the spinal marrow, remained perfectly flaccid.

6th. Lastly, the difference in the degree of irritability in the muscular fibre of the two limbs was observed when these were entirely separated from the rest of the animal.

" In a word," adds our talented author, " the muscles of the limb paralysed by its separation from both cerebrum and spinal marrow, had lost their irritability; whilst those of the limb separated from its connection with the cerebrum only, but left in its connection with the spinal marrow, not only retained their irritability, but probably possessed it in an augmented degree. The next question came to be,—Do these phenomena obtain in the human frame? I visited a patient affected with hemiplegia, including paralysis of the face, and I passed a slight galvanic shock through two pieces of metal, of which one was placed over each cheek. The muscles of the paralytic side were most affected. I repeated the experiment with the same result. I now compared with these, two cases of injury of the facial nerve, passing the galvanic shock in the same manner, through the fibres of the orbicularis: it was now the muscle of the healthy side which was affected by the galvanism, the eyelid of that side being closed, whilst that of the paralytic side gaped as before. I next compared the effect of galvanism in two cases of complete paralysis of the arm, one hemiplegic, the other the result of dislocation of the shoulder. The muscles of the former were more, those of the latter less, irritable than those of the healthy arm respectively, as were also those of the arm of a patient affected with the paralysis induced by lead. Lastly, I compared the cases of paralysis of the lower extremities, one arising after pertussis, and therefore cerebral, the other, I think, from disease within the lumbar vertebræ: in the former there was augmented, in the latter, diminished, irritability.

By means of these experiments and observations we are enabled, I believe, to explain all the apparent discrepancies between the statements of former authors, and between each of them and my own.

The observations of Nysten, and others, determined that the irritability of the muscular fibre still existed in ordinary hemiplegia; but they did not extend far enough to determine the comparative degree of irritability of the paralytic and of the healthy limbs, or the question whether, in the former, the irritability was diminished—the event probably expected—or augmented, a result, I believe, never anticipated.

Prochaska and Nysten and Legallois failed in their experiments, too, by not allowing time for the change in the condition of the irritability of the muscular fibre to take place.

Professor Müller and Dr. Sticker, on the other hand, did not distinguish between paralysis arising from separation from the cerebrum merely, and paralysis arising from separation from the spinal marrow, a distinction of the utmost importance in every point of view, and that which explains the phenomenon under discussion. The term paralysis has been used by all the authors whom I have quoted, in too general a sense. This is so true that I may affirm that in one kind of paralysis, that which removes the influence of the cerebrum, and which is therefore paralysis of spontaneous or voluntary motion, there is augmented irritability; whereas in the other, that which severs the influence of the spinal marrow, the irritability is diminished or even annihilated.

We may conclude that, in cerebral paralysis, the irritability of the muscular fibre becomes augmented, from want of the application of the stimulus of volition; in paralysis arising from disease of the spinal marrow and its nerves, this irritability is diminished, and at length becomes extinct, from its source being cut off.

We may further deduce, from the facts which have been detailed, that the spinal marrow, and not the cerebrum, is the special source of the power in the nerves of exciting muscular contraction, and of the irritability of the muscular fibre; that the cerebrum is, on the contrary, the exhauster, through its acts of volition, of the muscular irritability.

As a further deduction from the same facts, we may infer the diagnosis between cerebral and spinal paralysis: mere cerebral paralysis is attended by augmented irritability, whereas spinal paralysis is that which is attended by diminished irritability. This fact will prove useful in many obscure cases." 206.

There can be no doubt of the value of these facts if they should be completely established. Dr. Hall observes, that the principle they establish explains a whole series of phenomena. And first, he says, the exception to the rule of augmented muscular irritability in paralytic limbs, is obviously dependent upon its existing in the cases of paralysis from the severed influence of the spinal marrow, as distinguished from those arising from the severed influence of the cerebrum merely.

Secondly, we understand at once why the influence of strychnine is first, and most, seen in cerebral paralysis, in the paralytic limbs.

But Dr. Hall brings some other points before our notice.

The first of these is the influence of emotion in paralytic limbs.

The second is the similar influence of certain acts of respiration; as yawning, sneezing, coughing, &c.

The third, the similar influence of the tonic power.

> "It must have occurred to us all to observe the influence of surprise or agitation, on the arm and hand, and perhaps on the leg, of a patient long affected by hemiplegia, whilst the limbs of the healthy side remained unaffected. In this case the influence of the emotion is, like that of strychnine in the case formerly discussed, exerted equally upon the limbs of both sides; but it is the muscles of the paralytic limbs which are most irritable, most susceptible of the stimulus; it is therefore these limbs which are most convulsively affected.
>
> The same phenomenon is not observed in paraplegia, because the influence of the emotion is cut off from the affected limbs." 207.

He gives this case.

Case.—Dr. Hall was called to a patient a short period ago, affected at that moment with bronchitis. He was forty-three years of age; and at the age of twenty-four had been seized with hemiplegia. Recovering from the immediate danger of the attack, he remained hemiplegic, scarcely regaining the use of the hand and arm at all, and only partially that of the leg.

Whenever this patient is excited by meeting an acquaintance, or in any similar way, he has a little strabismus, and the hand and arm are contracted and convulsed in the most extraordinary manner: whenever he coughs, the leg is thrown involuntarily upwards. The arm is severed, as it were, from volition, but affected by emotion.

And Dr. Hall quotes another case communicated by Dr. Abercrombie to the late Mr. Shaw.

> "'I had some time ago under my care, a man affected with hemiplegia of the left side; the palsy complete, without the least attempt at motion, except under the following circumstances: he was very much affected with yawning, and every time he yawned the paralytic arm was raised up, with a firm steady motion, until it was at right angles with his body (as he lay in bed on his back), the fore-arm a little bent inwards, so that his hand was above his forehead at its greatest elevation. The arm was raised steadily during the inspiration, and when the expiration began seemed to drop down by its own weight, with considerable force. He continued liable to the affection for a considerable time, and it ceased gradually as he began to recover the natural motion of the limb.' —That is, as I conclude, as the state of augmented irritability was removed by the returning acts of volition." 208.

Not less interesting, continues our author, are the effects of the tonic power. In cases of hemiplegia of long duration, the paralytic limbs, but especially the arms and hands, are drawn into a state of chronic, rigid, contraction. This phenomenon is owing to the principle of tone constantly acting upon muscles now possessing augmented irritability, whilst they are never, or rarely, relaxed by acts of volition.

A similar effect is seen in idiots born with atrophied cerebrum: the influence of volition is wanting; that of the spinal marrow, the source, at once, of the tone and of the irritability of the muscular system, is in constant action, and induces chronic contraction, an effect which must, however, be distinguished from that of spasm, which is excited immediately by some disease of the spinal marrow itself.

Dr. Hall introduces eight other cases with the following remarks :—

> " I may now resume the subject of the action of strychnine on paralytic limbs. It is obvious that the generalization of M. Fouquier, M. Ségalas, and others, that the strychnine attacks the paralytic rather than the healthy limbs, was too hasty. This is only true in those cases of paralysis in which the muscles still remain in nervous connexion with the spinal marrow; the opposite result is observed in those other cases in which such connection between the muscles and the spinal marrow is intercepted.
>
> I would here make another observation. The arms and hands, generally speaking, are more under the influence of the cerebrum than the lower extremities; and these, on the other hand, are more under the influence of the spinal marrow than the arms and hands. The superior extremities are more and more frequently affected by hemiplegia than the inferior; these are more influenced by tetanus, by strychnine, &c., than the former, a fact which I have observed, in regard to strychnine, in some cases of hemiplegia. These facts must be borne in mind in making our observations.
>
> Another circumstance must also be noticed. The more perfect the paralysis, generally speaking, the more the irritability of the muscular fibre is augmented. In hemiplegia, the arm is generally at once more paralytic and more irritable than the leg. In chronic cases, however, the irritability becomes impaired, together with the nutrition." 210.

And, finally, Dr. Hall concludes :—

> " 1st. That the spinal marrow, exclusive of the cerebrum, is the source of the muscular irritability :
>
> 2nd. That the cerebrum is, in its acts of volition, an exhauster of that irritability :
>
> 3rd. That, in muscles separated from their nervous connexion with the brain, we have augmented irritability:
>
> 4th. That, in muscles separated from their nervous connexion with the spinal marrow, we have on the contrary, diminished irritability :
>
> 5th. That the degree of the irritability of the muscular fibre of paralytic limbs, compared with that of the muscles of the healthy limbs, will afford us a source of diagnosis between cerebral and spinal paralysis, and especially between
>
> { 1. Hemiplegia of the face, and
> { 2. Paralysis of the facial nerve;
> { 3. Hemiplegia of the arm or leg, and
> { 4. Disease of the nerves of these limbs ;*
> { 5. Disease of the spinal marrow in the dorsal region, and
> { 6. Disease of the cauda equina in the lumbar region ; &c.
>
> 6th. That the greater influence of emotion, of certain respiratory acts, of the principle of tone, &c., on the muscles of certain paralytic limbs, than on those of healthy limbs, depends on their augmented irritability :

---

* " In disease of the cervical vertebræ, the arms are sometimes paralyzed without paralysis of the legs; this probably arises from compression of the brachial plexus. See Sir B. Brodie's paper in the transactions of this Society, vol. xx. p. 130; the galvanic trough would determine the question:"

7th. That the same principle explains the greater susceptibility of the muscles in certain cases of paralytic limbs, to the influence of strychnine.

8th. That, in the conclusions of M. Fouquier, Professor Müller, &c., a sufficient distinction was not made between the influence of the cerebrum and of the spinal marrow, which in this, as in so many other respects, have such different properties :

9th. From these, and other experiments and observations, I conclude, too, that sleep restores the irritability of the muscular system, by arresting the acts of volition, which exhaust or diminish it; muscular efforts, on the other hand, diminish the irritability and induce fatigue." 217.

Undoubtedly a valuable memoir.

XIV.—CASE OF FRACTURE OF THE CORACOID PROCESS OF THE SCAPULA, WITH PARTIAL DISLOCATION OF THE HUMERUS FORWARDS, AND FRACTURE OF THE ACROMION PROCESS OF THE CLAVICLE. By JOHN F. SOUTH, Assistant Surgeon to St. Thomas's Hospital.

Mr. South publishes this case because the occurrence of such an accident has been doubted, and no dissection of it, so far as he knows, has been made.

A painter, aged 58, was admitted into St. Thomas's Hospital, at 7 p. m. April 12, 1838, having fallen from a height of 30 feet.

There was a scalp wound and bleeding from the left ear, and a compound fracture of the olecranon opening into the joint.

" The arm hung closely to the side, and at first I did not observe any injury of the shoulder; but being informed that the surgeon who had sent him to the hospital thought there was dislocation at that joint, I examined it more carefully, and on rotating the arm, felt crepitus, which I considered to arise from the motions of the broken ulnar being transferred to the humerus. However, not being satisfied on this point, I fixed the olecranon, and then looking more closely at the shoulder, observed a depression below and behind the acromion, which led me to suppose some displacement of the head of the humerus or fracture of the neck of the scapula, but still the roundness of the shoulder was not lost. I then put my hand on the shoulder, and endeavoured to grasp the neck of the scapula with my thumb and finger (the former being in the axilla,) and commenced gentle rotation of the arm, when immediately and unexpectedly I felt the head of the humerus move backwards, and the appearance of pit ceased. I then began to arrange the elbow, and whilst doing this the humerus again slipped out, the same appearance of depression behind it and below and behind the acromion was re-produced; and I also observed there was preternatural prominence and roundness of the front of the shoulder. I therefore supposed it to be dislocation under the clavicle, of the same kind, though not to the same extent, as the so-called dislocation under the pectoral muscle, but which is really rather under the inner edge of the deltoid than under the pectoral muscle.

For the fracture at the elbow joint a long well-padded splint was placed on the front of the limb, to which the fore-arm was connected nearly as high as the elbow by another, and the upper arm in a similar manner, but less tightly, from a little above the joint nearly to the axilla. The edges of the wound were brought together with two adhesive straps, and the plaister varnished with sealing-wax, after Mr. Abernethy's plan, so as to allow the application of an evaporating lotion without the straps being loosened.

The dislocated head of the humerus was now again replaced, merely by lifting the neck outwards with the thumb and rotating the arm: its return was this time indicated by a grating noise, which was heard by the bystanders. A large pad of tow was put in the armpit, and confined there by a bandage tied upon the opposite side of the neck, and a second bandage passed round the belly, and including the fore-arm, brought the band near to the trunk, whilst the head of the humerus was kept up by the pad in the axilla." 105.

We may venture, we think, to make one observation. The facility with which the head of the humerus slipped forwards under the inner edge of the deltoid and back again, might direct attention to the coracoid process. The integrity, or otherwise, of *that*, is usually distinguishable, without much difficulty; for, by firm pressure below the clavicle, the process itself may be, in general, felt with ease, and subjected to examination.

In the night of the 16th, cough and vomiting came on; the vomiting continued, and at 4 a. m. of the 17th, he died.

Examination of the Shoulder.

"On turning off the integuments, a small quantity of effused blood was found on the front of the shoulder, and to my surprise, a fracture of the clavicle, about a third of its length from the acromial extremity, with, however, but little displacement. The clavicle was then disarticulated from the sternum, and, together with the scapula and part of the humerus with their muscles, removed from the body and carefully examined. The acromion was broken at the usual place, about an inch from its extremity, but not at all displaced, as the periosteum had not been lacerated.

When the deltoid muscle had been turned off from its clavicular origin, the coracoid process of the scapula was found broken about half an inch from its tip, into two unequal pieces, the smaller of which remained connected above with a piece of the triangular ligament still attached to the acromion, and below to the short head of the biceps muscle, which had pulled it down as far as the ligament would allow, about half an inch below and to the outer side of the stump of the coracoid process. This muscle was torn from the coracobrachialis about an inch; and to the top of the conjoined tendon of the latter, and of the lesser pectoral muscle, was attached the larger portion of the broken coracoid process, which had been drawn rather lower than the other portion, and to the inner side, but was still connected by a thin cord of fibrous matter to the coracoid process. The remainder of the triangular ligament was torn to pieces. In the front of the capsule of the joint was a slit about an inch in length, through which the cartilaginous covering of the head of the humerus was seen glistening. The remaining origin of the deltoid was divided, and the muscle turned down and cut off, which exhibited the head of the bone in its proper position.

Being anxious, if possible, to reproduce the same state of the shoulder as when I first saw him, in order to comprehend the extent of the displacement, I moved the humerus about in various directions, when at last, by lifting up the shaft and pressing the head of the humerus forwards, I effected my purpose; the preternatural roundness in front of the acromion being produced by the head of the humerus being partially thrown forwards and over the front edge of the glenoid cavity, so that it became fixed, and behind it the depression below the acromion appearing, in consequence of the sinking of the tendons of the infraspinatus and teres minor muscles into the glenoid cavity, from the altered position of the head of the bone, which, however, did not protrude through the slit in the capsule, although it was there more distinctly visible. No other laceration of the tendons about the joint had occurred, except a very slight tearing of the tendon of the supraspinatus muscle. Nor was there any other fracture of bone." 106.

Mr. South, among other observations, makes the following:—

"As to the partial dislocation of the humerus, it is an accident which I have often heard mentioned, but till the examination of the present case have scarcely deemed possible. Indeed, even in this, during life, I did not suppose it existed; and I still think that it could not have occurred without great laxity of the capsular ligament, and without the fracture of the coracoid process. I believe that the existence of the latter injury was necessary to allow the partial dislocation of the head of the humerus forwards; for had the coracoid process remained unbroken, I cannot imagine how the head of the membrane could have slipped so far before the glenoid cavity, as to allow of its being fixed in the position in which I found it when I first saw the patient, and to which I returned it after death." 107.

"I would wish, however, to state, that I do not consider the present case as offering any proof of the possibility of such accident as partial dislocation of the head of the humerus, unless, as in this instance, there be fracture of the coracoid process. For the disposition of that process is not merely as a protection against injury to the front of the joint, but it precludes the head of the humerus being projected so far before the edge of the glenoid cavity as to put it in a situation from which it cannot and must not be immediately withdrawn by the slightest action of either of the muscles attached to the tubercles. Whilst, on the contrary, if the head of the bone be driven backwards, it must be either so completely thrown from the glenoid cavity, as to produce dislocation on the dorsum, or so trifling, that it is but for a moment slightly displaced, and reverts to its natural place so soon as the impelling force is removed." 109.

The surgical world is under obligations to Mr. South for communicating this case.

XV. MEMOIR ON TUPHLO-ENTERITIS; OR INFLAMMATION AND PERFORATIVE ULCERATION OF THE CÆCUM, AND OF THE APPENDIX VERMIFORMIS CÆCI. By JOHN BURNE, M.D. Physician to the Westminster Hospital, &c.

Since Dr. Burne laid before the Society, in May, 1836, an article on the Inflammation and Perforative Ulceration of the Cæcum and of the Appendix Vermiformis Cæci, he has seen more of these cases, and acquired additional information respecting them.

"The peculiarity," says Dr. Burne, "in the organization of the cæcum, which bears upon the present subject, is the absence of a peritoneal tunic at its posterior part, where it is fixed and attached by adipose cellular tissue to the iliac fascia, so that in the event of a perforative ulceration in this direction an abscess would form behind, and without the peritoneum upon the iliac fascia, and direct its course to the lumbar region at the outer edge of the quadratus lumborum muscle, as described in the former memoir.

Now of the whole tract of the large intestine, no part is so exposed to the lodgment of undigested substances as the cæcum, owing to its particular conformation, as well as to its being the portion of the large intestine with which the undigested substance comes first in contact. These circumstances, strengthened by the fact that many of the patients attacked with inflammation of the cæcum remember to have swallowed accidentally, or to have taken as part of their ordinary food, matters likely to pass the stomach in an undigested crude state, admit of the conclusion, that the greater number of the cases of inflammation of the cæcum are to be ascribed to the prolonged irritation of bodies so lodged, and that such inflammations are therefore properly symptomatic; a conclusion borne out, moreover, by the manner of attack, which is characterized by the development of the local preceding that of the general symptoms, and by the absence of the chills and rigors, which usher in idiopathic inflammation. The inflammation is developed slowly in one person, speedily in another, owing to the greater or less susceptibility and inflammatory predisposition of the individual. The inflammation of the cæcum may be idiopathic, and arise from the ordinary exciting causes, cold and vicissitudes of the weather, there can be no doubt; though the instances are rare in comparison with those which may be fairly attributed to the irritation of crude substances, which have reached the cæcum and lodged in its pouch.

The termination of this symptomatic inflammation of the cæcum is usually by resolution; the symptoms yielding at the end of five or six days, and subsiding altogether soon afterwards; except in patients of an inflammatory or gouty diathesis, in whom inflammation once excited will continue in a sub-acuto-chronic form, and require several weeks for its removal, notwithstanding the original exciting cause shall have passed away. The termination by perforative ulceration and abscess is rare, and probably never occurs when the cæcum was sound prior to the attack; the open channel of the colon permitting the passage of the irritating body, as soon as the subsidence of the spasm and the removal of the inflammation allow the muscular tunic of the cæcum to resume its function. No instance has come within my observation in which, upon dissection, perforative ulceration of the cæcum has been found; all the cases of inflammation of the cæcum and of supposed perforation, within my knowledge, having recovered; and, in the cases on record, there is evidence of disease in this gut having existed previously." 36.

Dr. Burne relates seven cases. The first, one of sub-acute tuphlo-enteritis,—the second, of acute tuphlo-enteritis—the third, of enlargement of the appendix; sero-enteritis originating in the peritoneal tunic of the appendix—the fourth, of concretions in the appendix vermiformis cæci, pelvic abscess and peritonitis; the appendix being situated in the pelvis—the fifth, of perforative ulceration of the appendix vermiformis cæci; abscess discharged by the bowels; recovery—the sixth, of perforative ulceration of the appendix vermiformis cæci, from a concretion lodged in its canal; peritonitis; death—the seventh, of perforative ulceration of the appendix vermiformis cæci; circumscribed abscess; death; unusual situation of the appendix.

These cases are all possessed of interest, and tend to exhibit the main features of the affection. But we cannot afford space for their details, and pass to the observations which follow them.

The varieties of disease, says Dr. Burne, in the present and former memoirs consist of:—

1. Inflammation, acute or sub-acute, of the cæcum, terminating quickly or slowly in resolution, or lingering on and leading to permanent organic impairment.

2. Perforative ulceration of the cæcum from within, with abscess behind the peritoneum, pointing externally in the corresponding lumbar, or inguinal region, or in both.

3. Inflammation of the appendix, spreading over the peritoneum.

4. Perforative ulceration of the appendix, with consequent universal peritonitis, ending rapidly in death; or with circumscribed peritonitis and abscess within the peritoneum, sometimes ending in death in the course of ten days, or, life being preserved, bursting eventually into the cæcum, and discharging itself by the rectum, or directing its course to the surface of the

body, and pointing in the right lumbar or inguinal region. If the appendix happen to be situated anormally, then the locality of the abscess, always within the peritoneum, is determined accordingly; as also is the direction it takes, or in which it points.

Dr. Burne adds:—

> "On referring to the Leçons Orales of Dupuytren, and to the article of Mr. Ferrall, on Phlegmonous Tumours in the right iliac region, I find that neither of these authors have spoken of the appendix. The greater number of cases detailed by Dupuytren as original phlegmonous tumours and abscesses in the right iliac fossa, appear to have been cases of perforative ulceration of the appendix, the tumours and abscesses being consequent on this perforation, and not orignal. The appendix, indeed, seems to have been overlooked in the necrotomy, no mention being made of it. It has also been overlooked by others, under similar circumstances; by Ferrall, Menière, Husson, and Dance, and it is the pathological error which has resulted that gives an especial interest to the subject." 59.

After criticising the opinions of Dupuytren, that inflammation of the right iliac fossa depends on the presence of irritating matters in the cæcum—and the *pendent* opinion of M. Menière, that it results from the extension of inflammatory action from the mucous membrane to the cellular, Dr. Burne, goes on to remark that Dupuytren, Menière, Husson, and Dance appear to him to have confounded together the four varieties of disease above set down, and have mistaken them for a primary inflammation and abscess of the subcæcal tissue; while the abscess itself is secondary, is only a stage or symptom, and results from the perforative ulceration either of the cæcum or of the appendix.

Speaking of the tumor which occurs in the right iliac fossa, Dr. Burne says that he has no difficulty in assigning as its causes:—

1st. Collection of fæcal matter in the cæcum.

2nd. The presence of any crude, undigested substance, of worms, concretions, or other foreign bodies.

3rd. Inflammation of the cæcum, resulting from the irritation of the above.

4th. Chronic disease of the cæcum, as in cases III. and IV. of my former memoir.

5th. Abscess from perforative ulceration either of the cæcum, or of the appendix.

In reference to diagnosis, Dr. Burne concludes that it is not difficult to distinguish the cæcum and appendix cases from other diseases, although it is by no means easy to distinguish the varieties from one another. He offers the following suggestions on this head:—

> "The inflammation of the cæcum, tuphlo-enteritis, the most frequent variety, is distinguished by the sudden attack, the patient having been in health previously; by the local signs fixed in the right iliac fossa; by the vomiting and obstinate constipation; and by all these signs being effectually relieved, or passing entirely away as soon as a free action of the bowels can be procured. This variety is the least dangerous.
>
> The perforative ulceration of the cæcum, which is comparatively rare, may be suspected when a patient, who has been in ill health, and labouring under bowel complaints for some time, is seized suddenly with the local signs fixed in the right iliac fossa, together with constipation and vomiting; the local signs con-

tinuing to persist in all their urgency, notwithstanding the constipation shall be overcome, and the free action of the bowels re-established. Later it will be distinguished by abscess without the peritoneum, pointing in the right groin, or in the right lumbar region, at the outer edge of the quadratus lumborum muscle; the tumour of the abscess being not unfrequently emphysematous.

Ulceration of the mucous membrane, as indicated by the bowel complaints, is a pre-existing condition of the cæcum, and invading eventually the other tunics, perforates the cæcum at its posterior part, where it is devoid of peritoneal tunic; hence the inflammation and abscess of the sub-cæcal tissue, which give rise to all the phenomena of phlegmonous tumours, or abscesses in the right iliac fossa. Perforative ulceration of the anterior or lateral parts of the cæcum, covered by peritoneum, rarely happens. I am not acquainted with any case of this description, as proved by dissection. It would necessarily excite peritonitis, which, if circumscribed, would lead to abscess; if universal, would speedily destroy life. These characteristics render the distinction between the perforative ulceration, and the simple ulceration of the cæcum very obvious.

The inflammation of the appendix is very rare, one case only having occurred in my experience. It was confined to the serous tunic, and presented the signs of circumscribed idiopathic peritonitis.

The perforative ulceration of the appendix is next in frequency to the inflammation of the cæcum, being certainly much more common than perforation of the cæcum. This variety may be suspected by the more or less sudden development of the local signs, always severe; by their being fixed in the right iliac fossa, and not preceded by bowel complaints, or ill health; by the supervention of vomiting and constipation, the constipation yielding readily to medicine, yet, having yielded, no amendment following; by the great tension in the ilio-inguinal region, there being always a circumscribed peritonitis and abscess within the peritoneum; by the sympathetic tenderness of the whole abdomen; and, subsequently, by the occurrence of a diarrhœa, and a discharge of pus by the rectum, followed by subsidence of the tumour, and amelioration of all the symptoms; or, by the pointing of the abscess in the form of an emphysematous tumour in the lumbar-inguinal, or ilio-inguinal regions.

The peritonitis, excited at the moment of the perforation of the appendix, will not unfrequently spread rapidly and universally over the peritoneum, and destroy life in from twelve to twenty-four hours.

The absolute perforation of the appendix is preceded by ulceration of the mucous membrane of some standing not resulting from disease of the intestinal canal, but produced by the accidental presence and infraction of some small foreign body: hence bowel complaints do not usually precede the perforation of the appendix.

The perforation of the appendix has many symptoms in common with the perforation of the cæcum. The perforation of the cæcum, however, is generally preceded for weeks or months by bowel complaints, indicating ulceration of the mucous membrane; while the perforation of the appendix is not preceded by such bowel complaints; a difference in the state of the canal prior to the occurrence of the perforation which aids materially in establishing the diagnosis." 68.

And Dr. Burne completes his interesting memoir by the following

Analysis of Twenty-one Cases.

Mortality: 13 recovered; 8 died.

Character: 19 acute; 2 chronic.

Varieties: 11 were inflammation of the cæcum—all recovered.

2 were chronic disease of the cæcum—both died.

1 was ulcerative perforation of the cæcum from within, with abscess externally—recovered.

1 was inflammation of the appendix, with circumscribed peritonitis—died.

6 were ulcerative perforation of the appendix—five died, one recovered.

Of the five fatal cases of perforative ulceration of the appendix, one died of diffuse peritonitis in about sixty hours; one of peritonitis, and circumscribed abscess in the peritoneum, in nine days; one of circumscribed peritonitis, and abscess in the peritoneum, in twelve days; one of circumscribed abscess in the peritoneum, in four weeks; and one of abscess in the peritoneum, pointing in the right ilio-lumbar region, in eleven days.

The one which recovered was a circumscribed abscess in the peritoneum, bursting into the cæcum.

Age,—Two under ten years of age: seven between ten and twenty; three between twenty and thirty; six between thirty and fifty; three between fifty and seventy.

Sex,—Sixteen were males; five were females.

Occupation,—Six were gentlemen; one was a coachman; one a farrier; five were boys having no particular occupation; three were destitute; five were females having no particular occupation.

Season,—In the autumn and beginning of winter, more frequently.

Dupuytren, from the analysis of sixteen cases, infers that they occur at the end of summer and beginning of winter more frequently; that age has an incontestible influence, eleven out of the sixteen having been under thirty years of age; that men are more liable than women; and that a greater liability applies to trades, as painters, colour-grinders, and turners in copper.

The inferences from this analysis are borne out by the foregoing in so far as relates to sex and season. They differ in some degree as relates to age; and entirely as relates to the liability of particular trades.

In the twenty-one cases the age varied from six to seventy years; the number under thirty being twelve, viz., four-sevenths of the whole; while Dupuytren's rather exceed two-thirds. The greater susceptibility of the alimentary canal in young persons would predispose them to inflammation of the cæcum, from the irritation of crude, undigested substances, and give a preponderance of cases under the middle age. The liability of particular trades, Dr. B. believes to be fallacious. The twenty-one cases having occurred in persons wholly unconnected with trade. Indeed, the causes being accidental, and having no relation to occupation, leave no ground for the supposition that the kind of trade can be instrumental in producing the various affections of the cæcum and appendix.

XVI. ON THE SOFTENING OF COAGULATED FIBRINE. By GEORGE GULLIVER, F.R.S. Assistant Surgeon to the Royal Regiment of Horse Guards.

Mr. Gulliver's object may be best described in his own words:—

"The nature of many of the albuminous morbid products affords an extremely interesting subject for further inquiry, since it is probable that a great step in the advancement of pathology may be dependent on the acquisition of a more precise knowledge of their distinctive characters. Although these matters differ most remarkably in their consequences, and are apparently developed in the living body under conditions essentially distinct,—seeing that they have properties more or less analogous to those of albumen—M. Andral, and most of the pathologists of the French school, have earnestly insisted on this analogy, with the view of informing us, that the substances in question are nothing but a modification of one of the proximate principles of the blood. It is possible, however, that this kind of generalization may be premature, and it seems doubtful whether, by attaching too exclusive an importance to rather vague generic characters, it may not have tended to retard that more particular examination of these substances, still so essential to a satisfactory knowledge of their intimate constitution; for, in the present state of pathological science, it is with their specific differences that we require to become acquinted; and their affinity to albumen, and common points of resemblance, so far from leading us to this desirable end, present the greatest difficulty in the investigation.

Of all these products, from its constituting one of the most frequent elementary forms of disease, pus is the most important; and as various matters have been comprised under this denomination, some investigation of their peculiar properties would appear to be necessary. Hence any contribution towards this object will not perhaps be altogether unacceptable, and I therefore beg to submit to the Society a narrative of some experiments and observations from which it may be concluded that a fluid which has generally been described as purulent is, notwithstanding, of an essentially different nature. I have elsewhere mentioned incidentally that this matter is softened fibrine, and I now adduce the evidence on which that opinion was founded, together with such remarks as may appear necessary by way of illustration." 138.

Mr. Gulliver relates seven experiments on the concoction of fibrine—four cases of softened fibrine in the heart and arteries—and five cases of softened fibrine in the veins. We shall quote :—

1. *Concoction of Fibrine.*

Experiment 1.—A clot of fibrine, such as is so often found there after death, was taken from the heart, and carefully secured in a perfectly clean portion of small intestine turned inside out, so that the fibrine was in contact only with the peritoneal surface of the gut. It was then placed in a water-bath, and kept for forty-three hours at a temperature varying from 96 to 104 degrees, when the fibrine was found to have become partially softened, particularly in some places towards the centre. It had rather an offensive, though not at all a putrid odour, and no ammoniacal gas appeared to be emitted from it, judging from the test of muriatic acid.

About a drachm of the softened fibrine was collected for examination. It could not have been distinguished from pus either by its colour and consistency, or by the facility with which it was miscible with water; it was not rendered ropy by caustic volatile alkali, and presented no irridescence when pressed between plates of glass before a candle in the manner pointed out by Dr. Young. Subjected to the microscope, the fluid was found to be loaded with particles extremely variable in size and form; some appeared very dense, others were flaky and larger than pus globules, but the greater number were smaller, extremely irregular in shape, not at all globular, like pus, but consisting of very minutely granular masses, and a few rounded particles about half the diameter of those of the blood were observed. On the addition of acetic acid all the particles soon disappeared, except a few which seemed more compact and required a longer time for solution. Treated with sulphurous acid, they swelled considerably, and became nearly invisible. Some of the softened fibrine was put into a small vial of water, a similar quantity of the clotted fibrine which had not been concocted being in like manner placed in another vial. Both were set aside for four days, the temperature of the air at the time ranging from 60° to 74°, when the mixture with the concocted fibrine was but very faintly putrescent, and that in the other bottle highly so.

Experiment vi.—Some of the fibrinous concretion formed, in consequence of inflammation, on the pleura of a dog, was confined in a glass tube, and subjected to a blood-heat for eighty-four hours, when it was found to be throughout softened, and presenting just the colour and consistency of pus, from which however it was easily distinguishable by the characters noticed in the other trials.

2. *Softened Fibrine in the Heart and Aorta.*

Case 2.—J. Cowan, 56th regiment, aged 29, died of pulmonary consumption. Some fibrinous clots were found among the fleshy columns of both ventricles, similar concretions of smaller size were attached to the inner membrane of the descending aorta, and some of the smaller branches of the pulmonary artery were filled with coagula. All these clots were more or less softened in the centre, the surfaces of those in the heart and aorta being toughish and cyst-like. The matter resembled pus in colour and consistency, but differed from it in being composed of very irregular particles and a few extremely minute globules, all readily soluble in acetic acid, swelling and becoming indefinite under the action of sulphurous acid, and not irridescent when placed before a candle. In short, it was destitute of pus globules, and presented just the same characters as the softened fibrine described in the first experiment.

3. *Softened Fibrine in the Veins.*

Case 8.—Corporal Pat. Long, aged 35, 86th regiment, died of chronic dysentery; the large intestines were ulcerated, but no collections of pus could be detected in any part of the body. The cava, renal, femoral, and saphena veins were completely filled with a clot, which in the former had become softened in the centre, the fluid being of a reddish-brown colour. It was faintly irridescent, and oberved under the microscope to be composed principally of very irregular particles, similar in all respects to those of the softened fibrine, but pervaded also by a considerable number of globules, somewhat smaller than those of the blood, pretty regular in size, and rough on the surface. On the addition of acetic acid or carbonate of ammonia they instantly disappeared, and the irregular particles were slowly dissolved in the acid.

The preceding experiment and cases exhibit the chief facts, more circumstantially set forth by the remainder.

Mr. Gulliver observes, that most of the cases which have fallen under his notice of fibrinous pulp in the veins have not presented marks of inflammatory action in the coats of the vessels, such as roughness of the inner membrane from adherent coagulated lymph, or increased vascularity or suppuration in their cellular sheaths. The softening of clots of fibrine appears, indeed, to be independent of inflammation, although this process and its consequences may be expected to occur sooner or later in the neighbourhood, and we may accordingly find true purulent fluid mingled with the softened fibrine, just as we often observe pus with cancerous and tubercular matter.

It may be observed that the softening of fibrine certainly occurs sometimes without appreciable suppuration in any part of the body. Mr. Gulliver tells us, that he and Dr. Davy have seen such cases, and we may add that we have done so too. The following remarks agree exactly with our own experience, such as it is and so far as it has gone.

> "Although the occasional obstruction of the veins by sanguineous coagula, whether softened or not, has become of late years well known from the labours of the continental pathologists, and particularly in this country from several reports of dissections in the magnificent work of Dr. Bright, as well as from the essays of Mr. Arnott, Dr. Geo. Burrows, and Dr. Copeland, my observations lead me to believe that the affection is not only more frequent than is generally supposed, but more concerned in disease, a circumstance to which my attention was first directed by Dr. Davy. Those who have not been in the habit, when examining dead bodies, of accurately attending to this point, would be surprised at the numerous examples of this condition noted in the register of dissections made under his superintendence at Chatham. The clots were in most instances partially whitened and softened in the centre; they were found in the heart, and also adhering to the inner membrane of the aorta; in the veins of the lower limbs, as well as in the cava, portal, and renal veins; in the pulmonary vessels, and in the sinuses of the dura mater. They were chiefly observed in subjects who having long suffered from various chronic maladies, had great prostration of the vital powers, and languor of the circulation during the last days of existence; a state which was also remarkable in the cases related in this paper, and which seems especially favourable to the formation and softening of the clot. If, therefore, a vein becomes obstructed with coagulated blood or fibrine, which cannot easily be absorbed or organized in consequence of the very feeble vitality of the patient, the clot may be expected to soften, and it is accordingly in such cases that the affection may be often found after death, although never suspected during life." 149.

It is impossible to be much in the dead-house of a large hospital, without being struck with the comparative frequency of obstruction in the iliac and femoral veins. And we have found it, as Mr. Gulliver has, in those who die after a lingering illness, or a protracted final struggle, and in whom the circulation for some period before death must have been extremely languid.

Mr. Gulliver continues:—

> "On the contrary, when the organic force is active, we know how readily fibrine becomes the seat of new formations, that it will acquire firmness and remain for years in the sac of an aneurism, and that extravasated blood is generally soon absorbed after injuries. In repeating those experiments of M. Gendrin, in which a seton is passed through a clot of blood, either in or out of the vessels, I could only twice succeed, after numerous trials, in producing any thing like pus in the substance of the coagulum. In these instances the animals were greatly reduced from the effect of previous operations, and the matter proved to be nothing more than softened fibrine, such as I have described it. When blood was injected into the subcutaneous cellular tissue, or into the serous cavities, its complete coagulation was retarded for two or three hours, while some of the same blood kept at the animal temperature in a bottle always coagulated in less than eleven minutes. Absorption of the clot took place with great rapidity, and was hardly delayed by passing a seton through it, so that on the second or third day it had nearly disappeared, the threads approaching the skin, where of course pus would be formed independently of the extrava-

sated blood. When two ligatures were so placed on a vein as to include an inch or two of the column of blood, it took about three hours to coagulate perfectly, as Sir Astley Cooper had noticed in his experiments. In two or three days it lost its colouring matter, becoming whitish, tolerably firm, and shrunken. After a seton or a leaden shot was put into the clot, no appearance of a purulent-like fluid was seen towards the centre, although pus was frequently present between the coagulum and lining membrane of the vessel, and still more often in the cellular coat and the neighbouring parts.

It may be observed, therefore, that as the doctrines of M. Gendrin concerning suppuration, have been extensively promulgated in almost every work on the subject recently published in this country, the preceding cases are interesting in this respect, since they are of that species to which he attaches so much importance, as proofs of the conversion of clots of fibrine or blood into pus. However, as Mr. Palmer remarks, M. Gendrin appears to have confounded the fibrine or corpuscles in a manner not consistent with the known constitution of the blood; and although some purulent or other matters may be occasionally mixed with the softened fibrine, still as it results from several observations that the latter is essentially distinct from pus, and constitutes the whole or greater part of the so-called purulent fluid in these cases, it is at least doubtful whether they admit of the inference which M. Gendrin has drawn from them." 151.

Mr. Gulliver adds these conclusions:—

1st. That coagulated fibrine, when removed from the body and subjected to a blood-heat, commences to soften in about forty hours, assuming the colour and consistency of pus, but easily distinguishable from it by microscopic and chemical examination.

2nd. That the purulent-like fluid found in the fibrinous clots of the heart and arteries, and so frequently in the viens, is essentially distinct from pus, and analogous to, if not identical with, softened fibrine.

3rd. That the softening of coagulated fibrine is an elementary pathological condition of frequent occurrence, distinct from suppuration, and constituting a considerable proportion of the cases generally denominated suppurative phlebitis.

And he winds up his interesting paper thus:—

"Lastly, I may observe, that I have frequently found pus mixed in considerable quantities with the pulpy fibrinous matter; and in two instances some purulent globules were observed, completely insulated, in the centre of a clot, from the neighbouring tissues. But in both these cases pus was also detected in the blood; and when it is considered how frequently this contamination exists, it will not appear surprising that the particles of pus should become entangled in coagula contained in the vessels. Nor does this circumstance at all invalidate the conclusion, that the softening of coagulated fibrine is a disease of much interest and importance, quite distinct in its nature from suppuration, although the two affections have been generally regarded as identical." 152.

We would simply remark that Mr. Gulliver's researches on the presence of pus in the blood are far from being established. There are grave doubts entertained of their correctness.

XVII. CASE OF CARDITIS. By THOMAS SALTER, Esq. of Poole.

Mr. Salter points out the absence of any recorded case of pure carditis, unaccompanied with inflammation of the pericardium. He relates the following as a not unsatisfactory approach to it.

N. P. Sheppard, aged 50, March 16, 1834. He complained of uneasy sensations in the region of the stomach, and under the sternum, increased by any sort of exertion. The appetite was good, and the pain not influenced by eating; bowels regular; tongue clean at the edges, but the centre and back parts covered with a thin white coating; pulse natural; countenance pale. On applying the ear to the cardiac region nothing abnormal was discovered.

He states that the symptoms were first observed about six weeks since, whilst walking; that the pain was then at the lower part of the chest, inclining to the left side, and though it did not continue long was remarkably severe, producing faintness and a cold perspiration. About a week subsequent to this he had another severe paroxysm, which occurred immediately after a walk of three miles into the country. The attacks are becoming more frequent, though not always so severe as the first; they now occur occasionally whilst sitting, and even lifting the arm sometimes brings on the pain. Accompanying the pain in the chest there is frequently considerable uneasiness about the middle of the left upper arm. There is no cough or sign of any pulmonary affection. He complains a good deal of flatulence, and says he is made worse by the use of beer. He was directed to take some pills with pil. hydrar. and ext. colocynth every other night, and twice in the day a portion of a mixture containing sulphate of magnesia and carbonate of soda: from the use of these remedies, and a strict attention to regimen, he experienced considerable relief; till early in the morning on Saturday the 22nd, when Mr. S. was hastily called to him.

> "I found him sitting up in his bed, being, from great oppression and distress in his breathing, unable to lie down. He placed his hand over the sternum, and said with great earnestness, 'it all lies here.' The pain was not lancinating, but of a dull heavy description; his face was pale, features sharp, and the expression anxious; and he said he felt as if he could not possibly live; pulse 80 and regular; heat of the skin temperate; pain in a slight degree increased by deep breathing; no tenderness at the scrobiculus cordis; feels some relief by raising wind from the stomach; action of the heart seems natural; chest sounds well on percussion, and the respiratory murmur is good.
>
> He was bled to ten ounces, and had a blister applied over the sternum: in the evening there was no remission of the symptoms; his sufferings continuing distressingly severe, and the seat and character of the pain remained unchanged; the pulse had risen in frequency to 120, and was small and weak; on inspiring deeply the pain was but in a slight degree increased; pressure on the intercostal spaces did not produce pain. The respiratory murmur was heard on both sides of the chest, but the anguish of the patient was so great, that it would have been extremely difficult, if not impossible, to have made any very satisfactory local examinations. His sufferings and distress in breathing were at this time so great that he did not appear able to give any precise or intelligible account of his feelings. He was directed to take one grain of opium and four of calomel every three hours." 75.

23d. He has passed a sleepless night, with restlessness and anxiety almost indescribable, frequently getting in and out of bed, and once dressing himself. He has vomited a large quantity of fluid tinged with green bile. He is still constantly obliged to observe the erect position; pulse 130, and so feeble as scarcely to be felt; sounds of the heart just distinguishable by the stethoscope; surface of the body cool; bowels open; urine in moderate quantity, with sediment. The pain under the sternum is less complained of, but the oppression of the breathing and the anxiety are truly distressing to witness.

In the evening, he complained of pain in the upper and left side of the chest, and beneath the clavicle. He had no sleep during the night, and, on the 24th, the pulse was not to be felt at the wrist; the hands, feet, and legs are cold; the patient continued to suffer greatly during the day, but gradually becoming weaker, he died at eleven o'clock at night, about 65 hours after the accession of the acute symptoms. His mind was unaffected throughout.

Dissection.—In the right pleural cavity there was more than half a pint of serous fluid. Nearly the whole of the left lung was in a state of considerable engorgement, resembling the first stage of pneumonia; it was crepitant, but from the cut surfaces escaped a large quantity of sero-sanguineous fluid, and from one of the cut bronchial tubes a clear fluid was observed to flow, which by pressure was also forced out of the trachea. The capillary and other vessels on the bag of the pericardium were distended with red blood, especially on the left side, exhibiting a beautiful vascularity. That portion of the membrane investing the substance of the heart showed also, by its unusual vascularity, striking evidence of having suffered from inflammation; this, too, was mostly on the left side, that portion covering the left ventricle being its chief seat; but the part of the pericardium which had sustained the most intense vascular disturbance, was that which lies on, and is attached to, the diaphragm. Here there was not only a distended state of the capillary and larger vessels, but numerous ecchymosed spots and blotches resembling those observed on the skin in purpura hæmorrhagica. There was no lymphatic, serous, or purulent effusion into the pericardial sac. The heart was somewhat larger than natural, its substance of moderate firmness; large coagula were found in all the cavities; some of these were quite white, others deprived of their red colour, and of a yellowish hue, and adhering with great tenacity to the internal parietes, whilst some portions of the coagula were dark on the outside and bleached within. There were no signs of disease in the lining membrane of the heart or valves. In the ascending aorta there were the appearances of common ossification. The great deviation from the normal condition of the heart was, however, found to be in the muscular substance of the left ventricle; excepting a small portion of a few lines in thickness on either surface, the left ventricle had entirely lost its muscular colour; it was of a lightish yellow hue, but still preserving the fibrous character of muscle. From all the cut surfaces of the various sections which were made, could be scraped purulent matter. In some parts absorption had taken place, leaving small cavities in the muscular substance, varying from the size of a pin's head to that of a small pea; these were all filled with pus. The stomach was large and flaccid, and contained a considerable quantity of fluid. The mucous membrane of the pyloric half was of a dingy red colour, from a spotted vascularity. The liver appeared quite healthy. The jejunum was inflamed, both in its peritoneal and mucous coats, for the greater portion of its length.

The case speaks for itself.

XVIII. ON THE STRUCTURE OF THE CORPUS LUTEUM. By ROBERT LEE, M.D. F.R.S.

Dr. Lee—

Haud sordidus auctor
Naturæ verique,—

Commences his paper by stating *that*, the Graafian vesicle in the human ovarium is a small spherical pellucid sac, which contains a fluid, the ovum, and the granular substance in which it is imbedded. The vesicle itself always consists of two distinct coats or membranous layers, which adhere firmly together. The external surface of the Graafian vesicle adheres loosely to the stroma or proper substance of the ovarium, in which it is imbedded by soft cellular substance, blood-vessels, and nerves.

Soon after impregnation, the coats of the Graafian vesicle and the peritoneum covering it, give way by absorption, the contents of the vesicle escape, and between its outer coat and the substance of the ovary, the corpus luteum is gradually formed.

After quoting the opinions of Baer and Montgomery on the site of the corpus luteum, Dr. Lee details his own researches.

On the 11th of July 1838, a woman, two months advanced in pregnancy, died of continued fever in St. George's hospital. On the 13th, Dr. Lee examined the left ovarium, which contained the corpus luteum.

> "It was larger than the right ovarium, and had a considerable prominence on its convex edge, around which were seen ramifying a number of minute arteries and veins. There was a small circular depression at the point of this prominence, but a bristle could not be made to pass through it into the substance of the ovarium. On cutting open the ovarium, the corpus luteum presented itself of an oval shape and deep orange colour, with a small cyst in its centre, resembling the Graafian vesicle, with its coats thickened and contracted. With little difficulty I succeeded in separating one half of this cyst into two distinct layers which appeared to be the two coats of the Graafian vesicle.
>
> The outer surface of this cyst is so loosely attached by cellular tissue to the corpus luteum, that it can easily be separated from it. The corpus luteum itself varies from a line to a line and a quarter in thickness, and when examined with a magnifier, appears to consist entirely of small yellow globules or particles contained in cellular membrane.
>
> Around the outer surface of the corpus luteum, and completely investing it, there is a white layer varying in thickness, the outer part of which loses itself in the substance of the ovarium, of which it appears to form a part, and to be similar in structure, having the mouths of divided vessels distinctly perceptible, as in other parts of the substance of the ovarium. The inner portion of this white layer, which appears to be condensed stroma, is separable on the one hand from the corpus luteum, and on the other from the substance of the ovarium, so as to give the appearance of a distinct membrane, considerably exceeding in thickness both layers of the Graafian vesicle. Plate VII. fig. 1 exhibits the colour and form of the corpus luteum when first cut open, with the Graafian vesicle in its centre.
>
> The Graafian vesicle is also enclosed within the corpus luteum, in a specimen of Fallopian tube conception of six or seven weeks, in my collection.
>
> In another specimen of more advanced tubal conception, the Graafian vesicle is likewise seen enclosed within the corpus luteum.

The same fact is fully as evident in the preparation of the gravid uterus of ten weeks, in my paper on the membranes of the human ovum in the 17th volume of the Transactions of the Society; and in several of the preparations of the gravid uterus in the Hunterian Museum, the Graafian vesicle is also contained within the corpus luteum, and forms its central cavity." 333.

So Dr. Lee concludes that the corpus luteum is neither produced by a thickening of the inner layer of the Graafian vesicle, nor by a deposit of a new substance between its two coats, but that it is formed around the outer surface of both these coats of the Graafian vesicle, and that the stroma of the ovarium is in immediate contact with the external surface of the yellow matter.

As gestation advances, Dr. Lee continues, the deep yellow colour of the corpus luteum fades, and the Graafian vesicle in its centre contracts and assumes a peculiar white membranous appearance, with small bands passing outward through the substance of the yellow matter, like the radii of a circle.

The corpus luteum has almost completely disappeared, and the ovarium returned to its natural size about three months after parturition. A small depression on the surface, and a slender white line running into the substance of the ovarium, are all the traces of the corpus luteum which remain in an ovarium three months after delivery.

" In the ovaria of women who have never been pregnant, yellow oval-shaped bodies are frequently found, which it is difficult to distinguish from true corpora lutea.

In the greater number of spurious corpora lutea, as Dr. Montgomery has observed, the appearances are produced by blood extravasated within the Graafian vesicles, which assumes a fawn hue as the colouring matter disappears by absorption, and undergoes various changes, similar to those which are observed to take place in coagula of blood formed in the cavities of veins from inflammation of the coats or mechanical obstruction. After a longer or shorter period, the blood is entirely removed, and the coats of the vesicle contract, and often assume a brown, yellow, or black colour. In these false corpora lutea, the yellow matter is contained within the Graafian vesicle, and does not form around it, as true corpora lutea are always observed to do.

In advanced life a thickening of the layers of the Graafian vesicle not unfrequently gives rise to appearances resembling corpora lutea. These, and all other false corpora lutea, are generally found deeply imbedded in the substance of the ovarium, or, if they are near the surface, they are not actually in contact with the peritoneum, but have a small portion of stroma intervening. If there is a cicatrix over these, it has an irregular form, very unlike the small circular aperture always seen in the peritoneum covering the true corpus luteum. Besides, in true corpora lutea there are always bands running from the outer surface of the central capsule to the stroma, surrounding the yellow substance of the corpus luteum." 335.

Appearances which might be mistaken for true corpora lutea have been observed in the ovaria of women who have died during menstruation.

" On the 18th of November 1832, I examined the uterus and the ovaria of a young woman who had died suddenly the preceding day, when the catamenia were flowing. Both ovaria were larger than usual, and the Fallopian tubes were red and turgid. The peritoneal coat of the left ovarium was perforated at that extremity nearest the uterus by a small circular opening, around which the surface of the ovarium was elevated, and of a bright red colour. When cut into, the substance of the ovarium around had a fawn colour.

On the 14th of January 1837, a woman thirty seven years of age, who had long suffered from hysteria, died suddenly in St. George's Hospital, during menstruation. No morbid appearance was found to account for her death. A small circular aperture was observed in the peritoneum of the left ovarium, near the point where the corpus fimbriatum is fixed to the extremity of the ovarium. This opening communicated with a cavity in the substance of the ovarium, which was surrounded with a soft yellow substance, of an oval shape. The distinctive characters of the true corpus luteum were wanting.

From all the observations hitherto made upon the true corpus luteum, we may conclude that it is never formed but as a consequence of impregnation. The yellow oval-shaped substances found in the ovaria of women who have never been pregnant, are produced by morbid states of the Graafian vesicles, and are essentially different in structure.

P.S. On the 27th of July 1839, a lady, 29 years of age, died in the second month of her first pregnancy; and I inspected the body on the 29th, with Mr. Jorden of Lower Belgrave-street. The right ovarium contained the corpus luteum, from which there escaped about a small tea-spoonful of yellow serous fluid when it was cut open. On the 30th of July, I examined the ovarium and corpus luteum with Sir Astley Cooper and Mr. Wharton Jones, and the result is, that the correctness of the view which has been taken of the structure of the corpus luteum in this paper is now put wholly out of doubt. From the preparation of the part and the fac simile made of it by Mr. Jones, it is evident that no capsule surrounds the yellow matter, but that the outer surface of the yellow matter is in immediate contact with the stroma, or proper tissue of the ovarium. It further clearly appears, that both the layers of the Graafian vesicle are within the yellow matter, that the innermost of these layers is smooth, and the outer layer rough and filamentous, and that processes are sent out from this exterior layer which penetrate the yellow matter to a considerable depth, and in some parts go quite through it to the stroma of the ovary. The peculiar convoluted appearance of the yellow matter is also distinctly seen." 337.

Nothing can seem more satisfactory than this communication of our able and excellent friend, Dr. Lee.

This concludes our account of the present volume of the Society's Transactions—Transactions which still maintain their high character, and are eminently worthy of the medical literature of the country.

GATHERINGS FROM GRAVE YARDS, &c. &c. By *G. A. Walker*, Surgeon. Longman, and Co. 1839.

THE object of the present work is, to open the eyes of the public to the dangerous and disgusting results arising from the present practice of interments in the heart of cities, and in the midst of a dense population; and to endeavour to procure "the entire removal of the dead from the immediate proximity of the living." It cannot be denied that the present manner of burial has become a serious evil, and one well worthy of the attention of the Government: but we are afraid that the custom, which originally arose from the credulous belief of the common people in the powers of the church over souls after death, inducing them to seek a grave in the immediate neighbourhood of some place of worship as a protection against the enemy of mankind, is now too deeply rooted in the human mind to be easily eradicated.

Setting aside, however, the deleterious effects to the human frame from the pestiferous vapours continually exhaling from such enormous masses of putrefying remains, which must exercise a most baneful effect, especially on those living in the more immediate vicinity of these pest-holes,—we think that, if the public attention were to be once fully directed to the disgusting and monstrous practices continually resorted to with regard to the ashes of the dead, in order to make room for fresh supplies, they would be inclined to prefer a sepulture removed from the town, and in which they might rest in peace, to the present revolting practice of huddling up as many human bodies as can possibly be crammed into one narrow space in order that the proprietors of these places may reap as great a harvest as possible. Let us take, for example, one case detailed by our author: he is speaking of the burying-ground underneath Enon Chapel:—

> " This space measures in length 59 feet 3 inches or thereabouts, and in width about 28 feet 8 inches, so that its superficial contents do not exceed 1,700 square feet. Now, allowing for an adult body only twelve feet, and for the young, upon an average, six feet, and supposing an equal number of each to be there deposited, the medium space occupied by each would be nine feet: if, then, every inch of ground were occupied, not more than 189 (say 200 in round numbers) would be placed upon the surface; and admitting (an extravagant admission most certainly) that it were possible to place six tiers of coffins upon each other, the whole space could not contain more than 1,200; and yet it is stated with confidence, and by credible authority, that from 10,000 to 12,000 bodies have been deposited in this very space within the last sixteen years ! " 237.

It is not long since an extreme sensation was excited by the greatly exaggerated tales with regard to the practice of exhumation for the purposes of dissection, but we must say that none of these tales could at all equal the wholesale exposure and dismemberment of the dead which must here have been had recourse to.

We will now, however, proceed to a consideration of the book itself.

Mr. Walker devotes the first part of his work to a history of the burial-places of the ancients.

1. *Sepulchres among the Jews.*

According to the Jewish law the touch of a dead body contracted a legal impurity, hence they dreaded all communication with it, so much so, that travellers were even forbidden to walk near the places where the dead had been interred. Every city had its public cemeteries beyond the walls.

2. *Funeral Rites of the Greeks.*

Inhumation appears to have been the most ancient custom among the Greeks, and the practice of conveying the dead to a distance from cities, was sustained both by the laws and by the religious doctrines of this refined nation.

Among the Romans the prohibition of inhumation in towns, was fully established in the law of the twelve tables, " Hominem mortuum in urbe ne sepelito neve urito;" and this law was renewed by all the succeeding forms of government.

Among the early Christians, also, the practice was for a long time zealously observed. The first person to whom they granted the privilege of being buried within the walls of a church was Constantine; after this the practice became more and more common till at last interments within churches was accorded to "Pagans as well as Christians, to the impious and the holy." The prohibition, after Constantine, was renewed in the code of Theodosius, and afterwards in that of Justinian, but though these edicts produced some effect for the time, yet the habit had become so universal, that the efforts to restrain it, made by the decrees of more than twenty councils convened at different periods from the 8th to the 18th century, were of no avail. In 1765, the Parliament of Paris took a stand against the abuses of the present system of interment; in the preamble to their decree on the subject, it was asserted, that "daily complaints are made on the infectious effects of the parish cemeteries, especially when the heats of summer have increased the exhalations; then the air is so corrupted, that the most necessary aliments will only keep a few hours in the neighbouring houses: this proceeds either from the soil being so completely saturated that it cannot retain or absorb any longer the putrescent dissolution, or from the too circumscribed extent of the ground for the number of dead annually interred. The same spot is repeatedly used; and, by the carelessness of those who inter the dead, the graves are, perhaps, often re-opened too soon."

It was not, however, till 1790 that a law was passed, by the National Assembly, commanding all towns and villages to discontinue the use of their old burial-places, and to form others at a distance from their habitations. The cemeteries of Paris are four in number, viz. Père-la-Chaise, Montmartre, Vaugirard, et Mont Parnasse.

> "The French Government has therefore shewn itself pre-eminently attentive to the health, and, consequently, to the happiness of its members. Commissions were issued—enquires instituted—laws enacted—royal decrees published, and well arranged plans formed and executed. The remains of those who had long lain mouldering in their tombs have been carefully removed from the interior of cities, and respectfully and securely deposited, and mortuaries have been fixed and consecrated for those who follow so far distant from 'the busy hum of men' as not to molest or endanger the survivors; whilst in almost every other country the putrefactive process emanating from those who have gone to their last homes is allowed to accumulate in the very midst of the habitations of the living, and to form the nuclei of increase, if not the origin, of the most malignant diseases." 90.

Having thus given an extremely slight sketch of the history of burial places, (for an exceedingly interesting description of which we must refer the reader to the book itself,) we will now follow the author in his description of the state of some of the

BURYING-PLACES OF THE METROPOLIS.

Burying Ground, Portugal Street.—"The soil of this ground is saturated, absolutely saturated, with human putrescence. * * * The effluvia from this ground at certain periods are so offensive, that persons living in Clement's Lane are compelled to keep their windows closed; the walls even of the ground which adjoins the yards of those houses, are frequently seen reeking with fluid, which diffuses a most offensive smell." Typhus fever appears to be very prevalent in the neighbourhood, especially in Clement's Lane, which is absolutely surrounded by burying-grounds.

Enon Chapel.—The upper part of this building is devoted to the purposes of public worship, underneath it, is the burying-ground, being separated from it only by a boarded floor. From ten to twelve thousand bodies have been placed here, since its establishment, in pits, the uppermost of which were covered only by a few inches of earth.

"Soon after interments were made, a peculiarly long narrow black fly was observed to crawl out of many of the coffins; this insect, a product of the putrefaction of the bodies, was observed on the following season to be succeeded by another, which had the appearance of a common bug with wings."

A Sunday school is held in the chapel.

"Residents about this spot, in warm and damp weather, have been much annoyed with a peculiarly disgusting smell; and occasionally, when the fire was lighted in a house abutting upon this building, an intolerable stench arose, which it was believed did not proceed from a drain. Vast numbers of rats infest the houses; and meat exposed to this atmosphere, after a few hours, becomes putrid." 156.

St. Clement's Church, Strand.—"There is a vault under this church called the '*Rector's Vault,*' the descent into which is in the aisle of the church near the communion table, and when opened the products of the decomposition of animal matter are so powerful, that lighted candles, passed through the opening into the vault, are instantly extinguished; the men at different times employed, have not dared to descend into the vault until two or three days had elapsed after it had been opened, during which period the windows of the church also were opened to admit the perflation of air from the street to occupy the place of the gas emitted;—thus a diluted poison is given in exchange from the dead to the living in one of the most frequented thoroughfares of the metropolis. The other vaults underneath the church are also much crowded with dead. From some cause, at present doubtful, these vaults were discovered to be on fire * upwards of fifty years ago; they continued burning for some days, and many bodies were destroyed." 158.

There was formerly a well by the side of the church, but the water became so nauseous that it could not be drunk, owing to its becoming impregnated with the putrefying matter with which the ground was charged.

Drury Lane Burying Ground.—The ground is now raised to a level with the first-floor windows surrounding the place, in it have been deposited some thousands of bodies.

Whitechapel Church.—The burial-ground adjoining the church, placed in the midst of a dense population is so thickly crowded as to present one entire mass of human bones and putrefaction. "In digging a foundation for a new wall, the workmen penetrated through a mass of human bones eight or ten feet in thickness; these bones were thrown out and for some time lay exposed to public view, scattered over the ground in a loathsome humid state."—These were afterwards deposited in two or three pits which were filled up to within a few inches of the surface.

---

* "This is not a very unusual circumstance; the vaults underneath St. James's Church, Jermyn Street, many years since, were on fire."

Bunhill Fields, City Road.—In this burial-ground, occupying about seven acres, more than one hundred thousand interments are supposed to have taken place.

Mr. Walker has given a detailed account of many more of our metropolitan cemeteries; but we think that, from what we have furnished, the reader will be able to form a pretty accurate judgment of the remainder. We will, therefore, extract the account of only one more, to show that this system is not confined to the poorer parts of the town, but extends even to the immediate vicinity of the palace.

> "*Buckingham Chapel,* situated in Palace Street, about three minutes' walk from Buckingham Palace. There are two vaults and a burying ground belonging to this chapel; one of the vaults is *underneath very large school-rooms for boys and girls,** and the other is *underneath the chapel;* the entrance to these vaults, is through a trap-door, in the passage, dividing the school-rooms from the chapel; steps lead to the bottom of the building; on the right, is the vault underneath the schools. When I visited this place a body had recently been interred, and the effluvium from it was particularly annoying. The vault is supported on wooden pillars, and there is only one grating, which fronts the street, to admit light and air; the floors of the school-rooms, white-washed on the under surface, form the roof or ceiling of the vault—it is no difficult matter to see the children in the lower school-room from this vault, *as there are apertures in the boards sufficiently large to admit the light from above.* This place is spacious but very low;—the vault on the left, under the chapel, is about the same size as that under the schools, though much lower. I was assured that the ground was so full of bodies, that there was difficulty in allotting a grave: the roof of this vault is formed by the under surface of the floor of the chapel; it is white-washed, the light passes through it; the smell emitted from this place is very offensive. In the vault underneath the chapel there are piles of bodies placed in lead; the upper ones are within a few inches of the wooden floor." 184.

We will not attempt to offer any comments on the facts which have here been detailed; they speak for themselves.

The remainder of the work is principally occupied by the consideration of the ill effects produced on the human constitution by these putrid exhalations; out of the immense number of cases brought forward by our author to prove their dangerous tendencies, we will select two only as illustrations of the results produced during the two most dangerous stages of animal decomposition, which he considers to be,—1st, that which takes place almost immediately after death, and the 2nd, during the extreme degree of putrefaction. As an instance of the evil consequences produced by the exhalation of the gases generated during the first stage, we may quote the following case.

---

* "Some hundreds of children here receive their daily education."

"In the month of June, in the year 1825, a woman died of typhus fever, in the upper part of the house, No. 17, White Horse Yard, Drury Lane; the body which *was buried on the fourth day,* was brought down a narrow staircase: Lewis Swalthey, shoe-maker, then living with his family on the second floor of this house, and now residing at No. 5, Princes Street, Drury Lane, during the time the coffin was placed for a few minutes, in a transverse position, in the doorway of his room in order that it might pass the more easily into the street, was sensible of a most disgusting odour, which escaped from the coffin. He complained almost immediately afterwards *of a peculiar coppery taste,* which he described as being situated at the base of the tongue and posterior part of the throat; in a few hours afterwards, he had at irregular intervals slight sensations of chilliness, which before the next sunset had merged into repeated shiverings of considerable intensity; that evening he was confined to his bed,—he passed through a most severe form of typhus fever; at the expiration of the third week he was removed to the fever hospital—he recovered; he had been in excellent health up to the instant when he was exposed *to this malaria.*" 132.

The effects of the gases produced during the extreme stage of putrefaction are illustrated by the following case.

"My pupil, Mr. J. H. Sutton, accompanied by an individual, for many years occasionally employed in the office of burying the dead, entered the vaults of St. ——— church; a coffin, '*cruelly bloated,*' as one of the grave-diggers expressed it, was chosen for the purpose of obtaining a portion of its gaseous contents. The body, placed upon the top of an immense number of others, had, by the date of the inscription on the plate, been buried upwards of eight years; the instant the small instrument employed had entered the coffin, a most horribly offensive gas issued forth in large quantities. Mr. S. who unfortunately respired a portion of this vapour, would have fallen but for the support afforded by a pillar in the vault; he was instantly seized with a suffocating difficulty of breathing (as though he had respired an atmosphere impregnated with sulphur); he had giddiness, extreme trembling, and prostration of strength; in attempting to leave the vault, he fell from debility; upon reaching the external air, he had nausea, subsequently vomiting, accompanied with frequent flatulent eructations, highly fetid, and having the same character as the gas inspired. He reached home with difficulty, and was confined to his bed during seven days. The pulse, which was scarcely to be recognised at the wrist,—although the heart beat so tumultuously, that its palpitations might be observed beneath the covering of the bed-clothes,—ranged between one hundred and ten and one hundred and twenty-five per minute, during the first three days; for many days after this exposure, his gait was very vascillating." 133.

The remainder of the book is devoted to a general *resumé* of the principal facts and observations contained in the preceding pages.

Having now completed our review of this work, it only remains for us to say, that it will be found well worth the perusal of every person at all interested in the preservation of the health, decency, and cleanliness of the metropolis, and may, perhaps, prove not unacceptable to the general reader, as presenting a complete and curious history of the different modes of interment which have been resorted to among different nations, as well as for its novel description of the burial-places of London, which, we believe, have never, until now, formed the subject of any work.

In taking our final leave, we must, in justice to Mr. Walker, state, that the book is clearly and vividly written, and the author deserves great credit for the industry and zeal which he has displayed in his by no means agreeable researches among the grave-yards; we hope, however, that he may reap a full reward for his labours, by seeing the disgusting nuisance against which he has daclared war, at least mitigated, even if not altogether put a stop to.

MEDICAL ETIQUETTE; OR AN ESSAY UPON THE LAWS AND REGULATIONS, WHICH OUGHT TO GOVERN THE CONDUCT OF MEMBERS OF THE MEDICAL PROFESSION IN THEIR RELATION TO EACH OTHER. Compiled exclusively for the Profession. By *Abraham Banks*, Esq. Member of the Royal College of Surgeons, London; Licentiate of the Company of Apothecaries; and late Surgeon in the Hon. East India Company's Service. Better perhaps expressed thus: M.R.C.S.L.; L.A.C.L.; S.H.E.I.C.S.; &c. &c. London, Charles Fox, 1839.

MR. BANKS is certainly a humourist. The abbreviated titles are a *capital* joke. And he is an enthusiast in the cause of medical etiquette. He does not mince matters—he is no milk and water, juste-milieu man—he throws himself body and soul into etiquette, and he comes out professional honour personified.

He tells us that his Treatise—

> "Is not addressed to him,* who from accident, or any other cause, having been called in to attend another man's patient, endeavours by every mean and underhand insinuation to wrest that patient from the original attendant; nor is it addressed to him, who may have been sent for, whilst another was in attendance, and taking advantage of the absence of that other, after much apparently skilful examination, and many enquiries to no purport whatever, casts up his eyes to Heaven, and with that mysterious waving to and fro of the hands, and that significant medical '*hum*,' exclaims, aghast in wonder and amaze, 'What a pity you had not sent for *me* before—if I had only been called in *six hours* sooner—but it is now too late, it has gone too far;'—nor to him, who under similar circumstances, on being shewn the medicine which had been prescribed, so natural to the friends of the patient, examines the devoted bottle with wonderful sagacity, and after due smelling, and sniffing, and tasting, and various other mountebank operations, dooms the unconscious deadly potion, consisting perhaps of a little saline mixture, to the awful punishment of ejection from the window;—nor is it addressed to him, who resolves to build up a reputation for fame at any price, who depends more for success upon detraction, and sapping the reputation of others, than on any intrinsic merit of his own. These generally consist of the out-pourings of the schools, of novices who have only seen the A B C of practice, and possess a little smattering of the science, but who, as they gain experience and knowledge, outgrow this absurdity. We should hope the maturer part of the profession was a stranger to such glaring outrages as these; if, however,

---

* "All the imperfections of character alluded to are unfortunately taken from living practitioners."

there be any of advanced practice capable of such conduct, all that we can say is, that they are too contemptible even for castigation." xii.

We wish we could say that we thought Mr. Banks quite right in this aspiration. We are afraid that it is not the out-pourings of the schools only who practice these mean arts. Some men of more years and of greater standing know the trick and play it. But the press, like Ithuriel's spear, *may* shame or frighten them, and never was a subject more legitimately suited to its lash than such paltry and dishonourable conduct.

"But," continues Mr. Banks, "to aim at higher game, it is not addressed to him who takes advantage of having once been summoned to a family, to call again unasked, and by sundry intimations endeavours to lower the estimation in which the regular attendant is held, and thereby pave the way for his own admission; to call such conduct unprofessional and dishonest, is not rendering it full justice; it is base and unmanly in the extreme; it is assassination in the dark—the resort of the coward. The man who gives his adversary due notice of attack, and thus enables him to withstand the shock of his charge, who openly declares him to be an ignorant blockhead, and unfit to practise his profession, is a noble and honest character compared with this other. Nor, lastly, is it addressed to the man who carries his profession upon his back wherever he goes, who never loses an opportunity of instilling into the minds of all those who have the misfortune to pass before him, that he is the incomparable; that if a person really wishes to be cured, to *him* they must go; that of all the professors of medicine he is, emphatically, *the professor*—the nonsuch of the profession; or, to him who seizes the opportunity, when the family are present, of reprimanding a young practitioner for alleged indiscretion, for the malicious purpose of injuring his reputation, or who expatiates in his absence on the advantages of employing a physician exclusively, who understands disease and infirmities better, and who, when unhampered by a general practitioner, orders little or no medicine: for such men there are, to their shame be it said, amongst the leading physicians of the day." xiv.

We would fain hope, nay we do believe, that the last imputation is unjust. There is no "leading" physician nor consulting surgeon who could so behave to "practitioner," old or young. We cannot credit it.

Mr. Banks' essay *is* addressed to the honourable men (the vast majority) among us. Even such a man, with the finest self-respect, the nicest sense of decorum, the purest spirit of honour may be placed in embarrassing situations. For instance, says Mr. Banks, he may be sent for in a hurry when the regular attendant happens to be out of the way; he goes and prescribes, then of course retires, leaving the patient under the care of the regular attendant; but as he is going, the family request him to call again; he pleads professional honour and etiquette, proffering his services at any time under similar circumstances; the family still urge him to continue, asserting that it will make no difference so far as the previous attendant is concerned, as if he refuses, they will send for some other person; a man, whose feelings are not over keen, has no difficulty here. But we trust the profession embraces thousands of members, who would feel it a very unenviable situation.

We shall not follow Mr. Banks through all the questions that he solves, or tries to solve. We shall content ourselves with discussing some of the more knotty points of honour.

1. *When one Practitioner attends a Case of Midwifery, or an Accident, for another.*

" There seems to be no general understanding in the profession, as to what is to be done in respect to the fee; some will take it, and keep it, and occasionally the patient also if they can; others compromise the matter, and retain a portion; whilst others again persist in refusing any consideration whatever. It is perhaps more congenial with the highest notions of honour, and more consistent with true dignity, to adopt this last practice, but many inconveniences necessarily arise from it; for instance, unless it be universally followed, it leads to a great deal of unfairness. A very sensitive practitioner may always persist in refusing any remuneration, whilst he under similar circumstances shall have every fee wrested from him: this is most unjust, and places an honourable man in a very disadvantageous position. To give another illustration of its injustice —there may be two men in a neighbourhood, the one having a very large, and the other a small practice; the chances in this case will be, that the man of small practice will do ten, or more times as much for the other practitioner, as that other does for him, so that he becomes in a measure his assistant, without the fair compensation. Again, in London, from the inconvenient practice of employing medical men at such great distances, it often happens that about the outskirts, or in the suburbs, a man may have to attend more cases for others than for himself; here also he acts the part of assistant to the more established practitioner.

Now, to obviate these difficulties, some persons have proposed to divide the fee; and amongst many this is done by a previous understanding to that effect, and if all fees were of much the same magnitude there could be no objection urged against this arrangement; but as some practitioners attend for almost as few shillings as others do for guineas, it seems unfair that he who may have paid two or three guineas should in his turn only receive a crown, or less, for conferring a similar kindness. The inconvenience also of having a fixed remuneration must be clear to every one, as in many cases a practitioner might have to pay more than he receives.

To remove all these difficulties, we would therefore propose that, whenever one practitioner is accidentally called in to attend a labour for another—excepting amongst intimate friends, who of course will consult their feelings much better, by allowing a larger latitude of generosity, if we may use that word—he shall receive half the fee, recognizing no fee below one guinea, or above two, and that this shall in future be considered perfectly compatible with the highest notions of honour and professional etiquette, as it would appear to be consistent with equity and common sense. The same rule, with some slight modification, might apply to accidents, especially those of a serious character." 3.

This proposition seems to us to be fair enough. We observe that some of our contemporaries scout the idea of any such arrangement between general practitioners, no such being adopted by *Pures.* But the cases do not seem to us to be quite analogous. General practitioners live more by a limited number of patients in a given range, and by connexion, than the Pures do: and a more strict code of reciprocity becomes requisite. There is not so much danger of the Pures clashing as of general practitioners clashing, and every fence against what might excite bad blood should be erected. It would be well were there a more systematic establishment of local societies among the general practitioners than there is. Many *trespasses* would be prevented.

2. *When Two Practitioners meet in Consultation.*

"It often happens, at the desire of the patient, or his friends, another general practitioner is called in, by way of consultation: now there can be no objection to this, nor do we see why two general practitioners should not meet in perfect harmony upon a case, if there were some general understanding in the profession as to the conditions upon which that meeting should take place. As it is now, this often leads to some unpleasantness, and commonly to reluctance on both sides; it usually terminates in one of the parties giving his attendance gratuitously, though we confess we cannot perceive why he should do so any more than a physician, or pure surgeon; it is lending his sanction to a practice, which it is both his interest and his duty to endeavour to overthrow, nor indeed is it fair towards himself. Occasionally he receives the customary fee; this again is unfair towards the other practitioner: for why should two men holding the same rank, possessing the same legal qualifications, the actual experience and knowledge pretty equally balanced, be placed in such different positions? Yet the profession may daily witness the monstrous absurdity of two men of equal grade, the one receiving his guinea, the other his half-crown, for the same services, with this difference, that he who receives the half-crown has to provide medicine in the bargain. Now to obviate this anomaly, we would suggest that when two practitioners, possessing the same *legal* qualifications (for however absurd these may be as the line is now drawn, yet they form the only criterion for us to act upon), meet upon a case, they should be received on precisely the same footing, and each have the same amount of remuneration, and at *the same time,* for that particular consultation, whether this be a guinea, a half-guinea, or a crown." 7.

No doubt, this would be best; the difficulty lies with the patients. They may object to an additional charge on the part of the attendant practitioner —and it would seem odd for the other to receive only the usual sum for the daily visit. It is clearly impossible to lay down a fixed rule, when the caprices of patients interfere with its operation. If the ordinary attendant stands too much on a point he may offend. *There* is the danger. We would suggest that unless both practitioners can receive at least half a guinea each, the consultant should make no charge. He must place, of course, his gratuitous visit, not on the ground of friendship to the family, but of professional etiquette.

3. *Affectation of Mystery.*

"We have heard physicians use such words as 'secundùm artem, ad deliquium, toastùm boastum,' &c. &c., when talking to a general practitioner before others, such can only impose upon the ignorant, and cannot fail to lower a man in his own estimation; the profession should be too proud to violate the laws of good taste and honesty, to bend to popular error. We remember some time since dining at a house where there was a lawyer at table, who, amongst many other professional terms, said, nothing was so mean as a *tu quoque;* if this gentleman could have seen how ridiculous he appeared, his countenance would doubtless have betrayed some embarrassment of the internal man.

When any person unnecessarily uses technical terms in the presence of others who may not be supposed to understand them, we regard it as a direct insult to those persons; it is in fact laughing at them. Closely allied to this habit, is that of clothing medicinal preparations in false colours, such as mixing rose pink with linseed meal, vermilion with epsom salts, burnt sugar with goulard water, &c. &c. We know that strong excuses may be pleaded in extenuation; but we may be permitted to deplore that constitution of society, which renders such conduct almost necessary; we believe it to be perfectly incompatible with an ardent love of truth, and a glowing admiration of rectitude.

Many other practices would seem to come very properly under this head, all which, being part and parcel of a system of deception, violate more or less the sacred sanctuary of truth. It is scarcely necessary to allude to that thoroughly beaten path, which has now become nearly obsolete from its palpable nature; such as being called out of churches during divine service, and other public places, and so contriving matters as to be riding hard by, when people are coming out, his horse foaming and sweating—poor animal! all in the cause of falsehood. But this has given way to other arts equally reprehensible, though of a more refined character, and not quite so obvious to public perception; such as singing very loudly over and above all the rest of the congregation, taking a conspicuous pew, and sometimes mounting on a hassock, in order to be well seen; giving the responses in very audible language, so as to excite the observation, 'Who is that pious gentleman?' making himself very officious, particularly in the charitable department, so far as the collecting goes, more especially if there is any chance of filling a medical appointment. A petition for a charity forms an excellent plea for calling on the wealthy, and putting in a good word for number One—the more so, if nobody else will do it; bowing to every one he meets, though, perhaps, he has never seen the person before; assuming a very religious tone according to the character he has to deal with, as, 'Well, Ma'am, we have maturely considered your dear little girl, and ordered such and such medicine, which, by the blessing of God, we hope will have the desired effect:' all this hypocritical cant, if it be not criminal, is truly disgusting.

Another recent manœuvre, which is sometimes practised, is putting up counterfeit medicines, and letting them lie about the counter in the surgery or shop, so as to give a false impression of business; talking largely, and contriving, if any excuse can possibly be obtained for so doing, to introduce the name of some nobleman or baronet into all his discourse, chiefly before strangers. We have witnessed instances where some unfortunate peer, who may have accidentally got his name upon an apothecary's books, has had that name mangled most unmercifully, as, 'John, has my Lord such a one had his medicine? be good enough to send that medicine to his Lordship directly; I will attend to you, Sir, as soon as I have ordered something for my Lord ——' &c. We remember hearing of a man who could not open his mouth without letting people know that he kept a horse and chaise; a bet was made upon the strength of this, that he could not answer the simplest question without introducing these essentials of his establishment. The question put was direct enough; he was asked what o'clock it was? and answered, 'When I, with my wife, passed the Horse Guards this morning in my horse and chay, it wanted,' &c." 14.

Mr. Banks has a hit at sending medicines to the wrong houses, "advice gratis," &c., but the Pickwick Papers have immortalised the "Sawyer, late Nockemorfs," already. We fear that our Professor of Etiquette is a *little* Utopian.

"Not quite so palpable," says he, "as these is that system of being all things to all men; of studiously avoiding expressing a sentiment which may be thought not exactly to correspond with another's; of feeding the ruling passions of others, whatever may be their tendency; of holding no opinion on general or public subjects; of adopting a reservedness in all mixed society. All this may be very good policy, but there is something servile in suppressing one's sentiments, lest they should not harmonize with those of other persons; in sounding one's way with such cautious timidity, lest a rumour should get afloat that one is not of the orthodox: but, above all, would we deprecate, in the strongest terms language is capable of affording, that violation of principle in public matters which sacrifices conscience to success; a crime than which we know none greater, so utterly subversive of all the rights of society. The man, endowed with the privilege, and who goes not to the poll, is guilty of a most flagrant dereliction of duty: but he who goes and votes in violation of his conscience is such a monster of iniquity, branded so imperishably with the marks of infamy and disgrace, as ought for ever to exclude him from the pale of civilized life, and render him

> 'A fixed figure for the hand of scorn,
> To point her slow unmoving finger at.'" 16.

This is very well, but doctors must, after all, "please to live." We are so dependent not merely on the patronage, but even on the whims and caprices of the public, that few can afford to shew independence. We do not agree with Mr. Banks on the necessity for avowing political opinions. As a profession we should rather hold aloof from general politics. Whig, Tory, Radical, Socialist are all our patients, and, as we must necessarily come into immediate contact with all, our intercourse should not be embittered, nor the benefits of medical science neutralised, by the gall of political rancour. No medical man need become a partizan of any of the factions that deform the state. We would not have it supposed that we advocate sycophantic subserviency. Far from it. No man need palter with the prejudices or the passions of his patient. He should hold himself aloof from both, and display that reserve which is the attribute both of prudence and philosophy.

4. *Mode of Payment.*

Mr. Banks has as great a horror of a bill, as any patient can have. He prefers fees, and, on "the bird in the hand is worth two in the bush" principle, as well as on every other, there can be no doubt of their superiority. He would go even as low as a shilling, and a half crown would be more than twice as good. Amongst other reasons, he esteems it because it would give patients a practical lesson of providence. There cannot be a doubt of the superiority of the plan of being paid by fees. But here again the patients are the "obstructives." The old method has become too deeply rooted, to be easily plucked up. Yet there are practitioners who have adopted the new, and with complete success. We are inclined to believe that many of the younger men will make the experiment.

Mr. Banks touches on another subject.

"The plan of present payment, too, would remove all that doubt which exists as to paying for domestics, which is often the source of much annoyance, and, occasionally, of legal dispute. There is a good deal of difference in the practice of persons respecting this; but from some experience in these matters, we hesitate not to say, that all respectable people do it generally; and, in equity, it would seem that a domestic, who has been some time in a family, has a moral claim, when it can be afforded without inconvenience. It is most unjust, and even inhumane, to throw a servant upon her own resources in case of illness, who may have faithfully discharged her duties for several years; yet we have been witness to an instance where the master refused to pay the medical expenses of a servant under such circumstances, though attended in his house both by a physician and apothecary; a man of considerable property, living in Brunswick-square, and the head partner of one of the largest legal firms in London. This is quite the exception to what is customary; and in all cases, where the master or mistress employs the medical attendant, or is aware of the attendance, we think they ought to be responsible, unless they have previously intimated to the contrary; and that it rests with them to state so, and not with the practitioner to make the inquiry." 22.

The physician and consulting surgeon is much less frequently remunerated for attendance on a domestic than the general practitioner. This is one of the cases which must be left to the determination of circumstances, and to the discretion of the medical attendant. Nothing can be more impolitic than to press a claim which is reluctantly allowed. Wealthy and liberal persons may pay for their servants—persons who are neither liberal nor wealthy will not; and if pressed to do so may *bolt*. It is a ticklish thing for doctors to stand too much upon right.

5. *Are medical Pupils to pay?*

We should decidedly say, no! And yet we have known a London surgeon in large practice and of scientific eminence take fees from his own pupil, knowing him to be such. This was too bad.

6. *Are Medical Men to pay one another?*

Undoubtedly not. Of course one practitioner is not bound to find medicine for another; he cannot be expected to be *out of pocket*. But his time (within reasonable limits), and his skill (provided the tax on it is not excessive), should be at the service of his sick brother. To this there must, in the nature of things, be some limitation. A man in large practice in London can scarcely be expected to go such a distance in the country as will cost him a day or two, without such a remuneration as will prevent his being a loser. A great difference should be made in the *amount* of a fee paid, under these circumstances, by a professional or a non-professional person, and, perhaps, something should be presented in the lieu of money. But for a man to go unremunerated altogether would be both unjust and impolitic. We say impolitic, for men in good practice would find or make excuses for their non-attendance, if they were served so.

" The same regulations, which apply to medical men, we think, should apply whilst they are living to their families; but not after their decease. That liberality which dispenses indiscriminately its favours upon all—the rich and the poor, the deserving and the undeserving, we strongly condemn, which often extends even to unprofessional acquaintances; we call it a wanton, wasteful, irrational, and mischievous liberality. The practice of some persons, when they happen to have a medical man at their table, of pumping him, and so getting back the value of their dinner, is mean and paltry in the extreme: and the claims which relatives often put forth, are very unreasonable and unfriendly; instead of encouraging a young professional person, they only serve to prey upon him.

With respect to the families of medical men after their decease, we do not see what other claim they possess to be placed on a different footing with the rest of the world, than the rights of friendship, and the plea of straitened circumstances. The notion entertained by some that the relations of deceased medical men, without reference to state, possess a decided claim upon all the members of the profession, seems to us an absurd, unjust, and visionary idea. A little extension of the same principle would produce a community of property, and lead all persons to throw their labour, and goods, into the general weal; which, however disinterested it might be, we do not think would tend to advance the civilization and improvement of mankind. A habit of grasping is by no means a general failing in the profession; the fault lies a little the other way;

and there are very many who much prefer indulging their liberality, than extending the lining of their pockets. These remarks have been occasioned by a circumstance which came under our observation some time since, where a young practitioner had been attending upon another much older, and in very superior circumstances, most assiduously, and so far as thanks and verbal acknowledgments went, was amply repaid; but no pecuniary consideration was offered, although the attendance had been long, and much medicine, and many things unconnected with medicine, which are usually kept in a chemist's shop, had been supplied; the parties never having heard of each other before the accidental occurrence which brought them together. To suffer this to pass by unnoticed in any other way than words, we think was both illiberal and undignified." 30.

We think so too. He must be a shabby fellow who does not send his brother practitioner a piece of plate at least, when under such an obligation.

7. *Remuneration for Prescriptions and Medical Certificates.*

" It has always appeared to us most unreasonable on the part of the public to request, and very injudicious also on the part of medical men to give up, a copy of one of their own prescriptions which has proved extremely serviceable, without equivalent; yet it is a common occurrence for any patients, on the plea of going into the country, to request of their medical attendant a prescription of some medicine they may have been taking a considerable time, and may possibly continue to take for years.

From the foolish system of charging for attendance under the form of medicine, the general practitioner has probably been receiving three shillings for that which would be prepared at a chemist's for half, or less; of course that prescription never comes back again; and thus a medical man gives up, perhaps, a small annuity, for no consideration! However, no one with the least pretension to liberality, could refuse a patient's making the request under such plausible circumstances, though we have full reason to believe that it is often done for the very purpose of getting it put up cheaper. A bold demeanour is not the general characteristic of the profession, and thus the majority concede to the application, though usually with reluctance; some refuse altogether upon the absurd plea that it cannot be written out, or that no other person could prepare it, and offer to supply a sufficiency of medicine for the time of absence. This would seem to be very fair, as every man is certainly entitled to the benefit of his own preparations, though it would be much more independent to state the real reason of refusing. But this cannot always be done; patients may be going abroad, or to leave the place entirely, and medicine will not invariably keep, and much inconvenience will sometimes arise from carrying or sending it to distances: now why a prescription under such circumstances should not be paid for, we cannot tell, except from the absurdity of custom." 32.

Mr. Banks suggests that where a patient applies for a prescription of a general practitioner of medicine, which has proved its value, on the plea of going into the country, or any other pretext whatever, a fair consideration be demanded as a matter of course, proportioned to the circumstances of the patient, and the probable use it is likely to prove of, the minimum amount being equal to a physician's fee; and to prevent individual prejudice, that this be universally adopted, and that the profession manifest a becoming spirit when the public shew any disposition to impute improper motives to this regulation. Something of this sort should certainly be generally agreed on amongst general practitioners.

Mr. Banks greatly dislikes the idea of writing certificates, and things of that sort, without pay. The thing may be unpleasant, but it is not easy at all times to avoid it. The request is made, in the majority of instances, by patients whom we have been attending, and it would appear invidious to demand, on all occasions, a remuneration. What Mr. Banks says of law is very true. Nothing is done in it for nothing. But the fixed fees of lawyers and the fluctuating charges of doctors do not admit of strict comparison. The mode of doing business in the two professions is quite different, and so are all the circumstances. No doubt, there is too facile a temper with regard to fees on the part of medical men. The affluent reject them, and the more needy members of the profession suffer. A patient says:—" Oh, Mr. so and so, (a physician or consulting surgeon) would take no fee, and this medical man makes a charge." Until the profession agree on these matters we see no prospect of any satisfactory arrangement. If a practitioner is too *exigeant* he *will* suffer, and if forced to be too liberal he *does* suffer.

"There are certificates of death in consequence of the new law, which give a great deal of trouble. Undertakers, sextons, and clergymen, all receive their fees before they will stir an inch, then why should not a medical man receive his, without whose authority none of them can legally act at all? Is it anything uncommon for a clergyman to refuse performing the burial-service before he has received his legal rights? And yet the poor medical practitioner, who has had all the responsibility of the illness, and perhaps never received a farthing for his trouble, is expected to write these certificates without any acknowledgment! All this is utterly monstrous, and part and parcel of the remnants of the old system of demanding medical evidence at inquests gratuitously. We respectfully refer it to the whole profession whether, for the future, it would not be more consistent with justice, and more calculated to support the respectability of the profession, to make an adequate charge, for looking over, or signing any paper, certificate, or document whatever." 37.

This recommendation will not, assuredly, be universally acted on. It were much to be wished, however, that some understanding could be come to on the part of the profession. As matters stand all suffer, but more particularly the general practitioner. Not that he has more to do gratuitously, in this way, than others, but he can, generally, less afford these irruptions on his income, than his more wealthy friends, the *pures*.

8. *When a Practitioner is accidentally sent for to the Patient of Another.*

"This is the case to which we made allusion in the preface; that, in consequence of the regular attendant being out of the way, and the family should refuse to see an assistant, another practitioner is sent for, who, on discovering the position of affairs when he arrives, and having prescribed for the patient, of course takes his leave in favour of the family practitioner; but they, pleased with his manner and address, and from some real or fancied neglect of their own medical adviser, request him to continue his visits: he declines on the plea of its being unprofessional; but they, in order to induce him to comply with their desire, assert, that if he refuses, it will make no difference so far as their original attendant is concerned, for they will send for some other person.

When this is really urged with truth and sincerity, and not out of complaisance, we cannot see that any stretch of honour requires a man to forego attendance, because this would lead to a most overbearing, tyranical custom; it would, in fact, be tantamount to saying to the public, that whatever practitioner you choose to employ in the first instance, him you shall continue to employ: this would be an insufferable dictatorial measure. The public have an undoubted right to send for whom they choose; and if they feel dissatisfied with one man they are privileged to send for another; and no reflection, under these circumstances, can equitably be cast upon a practitioner, provided he has done nothing directly or indirectly to bring the former one into disrepute. But here we feel particularly anxious not to be misunderstood; for our own part, we should be very reluctant to obtain a patient this way; much suspicion will always attach to such a case; nor do we consider that a patient, so acquired, will ever reflect much credit on the possessor. Persons are often capricious, and feel mortified if a man has happened to be out of the way once or twice; and some trifling excuse made for him will mostly rectify matters, procure the apologist the esteem of both parties, and more especially the sanction of his own conscience (we shall, perhaps, be thought to be wandering in the wilds of a visionary Elysium; but we would reiterate, that we are only writing to men endowed with the moral qualifications of practice); and at any future time, if he happens to be sent for first, he unhesitatingly goes without the possibility of the most distant reflection being cast upon his character; but by construing the dissatisfaction expressed, which may only be temporary to his own advantage, he most justly lays himself open to the reception of similar treatment from others." 45.

It is quite clear that a man has a right to dismiss his medical attendant if he chooses. That being the case it would be contrary to reason for another practitioner to refuse to attend. The absurdity as well as wrong to the patient would be monstrous. But if a man is accidentally called in the place of another, the case wears a different aspect. The man who endeavours to filch his neighbour's patient *then* is a rogue. Manœuvring and intrigue are too often resorted to, and the

"I would not, waits upon I would,"

is too common and too palpable. The interests of the profession require that such conduct should be stigmatized, and the strictest code of professional morality enforced. The arm of opinion cannot reach all offenders, but it will deter many from wrong and it will intimidate most.

We said that Mr. Banks was a bit of an enthusiast. He has a very high notion of doctors. He proposes that we should turn conservators of the public morals; a whole profession of censors!

"We would now appeal, with all that solemnity which the importance of the thing demands, whether the members of the medical profession would not do well to take under their protecting care the glimmering embers of morality; for if they do not, who shall? Should the Law make the attempt, it would be like nursing a serpent at her very bosom; for moral law and statute law are at total variance; the one of a high, noble, refined, and elevating character; the other of a low, mean, grovelling, and outreaching nature, the demoralizing tendency of which is but too apparent in the majority of its professors. The Church! But when has Sectarianism shewn herself favourable to the development of mind? When has she proved herself capable of taking those large and extended views of human nature, which comprehend the whole race? Church history has hitherto been little else than one continued series of oppressions, of prejudices, of tyrannies, of usurpations, of the blackest description. We fear that the mild and delicate Plant of morality would wither under the protection of Sectarianism, which, however admirably adapted for sowing the seeds of dissension in families, and fanning the flame of civil discord, is wholly unfitted for this nobler function. The Educator! the natural Ally of morality, to whom society would look as to a parent for assistance—but what has he as yet done, but train some for oppression, some to oppress? From the contemptible remuneration, and the low estimation, or rather the suspicious aversion, with which he is generally viewed, his profession has become merely the refuge of the mean-spirited and the destitute, where vanity, jealousy, and dogmatism are the prevailing passions. Alas! Thou poor Morality! If thou art deserted, and forsaken by the only men capable of throwing a shield of protection around thee, and infusing new vigour into thy spirit, the members of the medical profession, what hope hast thou? Nay; despair, and die!" 53.

If this be so, we fear that morality is in a very asthenic state. But what will the Church say to this? Ne sutor ultra crepidam, no doubt; "stick to the body, to the phthisic and the physic" quoth the parsons, "but leave the soul to us." And we really think the Cloth would be hardly dealt with if we served them in the fashion Mr. Banks would wish. Besides, the Church has the munitions de guerre, fifty millions of revenue, as Lord John remarked. If that will not *force* morality, we are afraid that no medical manure will answer.

9. *When a Second Party is called in to decide upon the Treatment of Another.*

"Nothing can be more agreeable to a rightly constituted liberal mind, than to give an opinion in confirmation of the judicious treatment adopted by another; but when it happens that there has been most palpable neglect, or most decided maltreatment, a conscientious man is necessarily thrown into a very unenviable moral dilemma. Strongly reluctant to infringe in the least degree upon the claims of generosity, or to lay himself open to the slightest imputation of illiberality, he yet feels a moral responsibility resting upon him to give his honest opinion; what is he to do? He must apply for assistance to Moral Philosophy; she will teach him that truth constitutes the great bond of union between man and man; and that however adverse to his feelings, yet his duty to society, his duty to himself, his duty to the individual soliciting his opinion, call upon him to declare his real sentiments.

It has appeared to us that a very common notion which has gone abroad, that under all circumstances the previous treatment of a patient is to be supported and confirmed, has its origin in a very false refinement of feeling; and when duty and feeling clash, we apprehend there will be few who will hesitate an instant which is to be paramount. When it is considered how differently the time which ought to be devoted to the acquisition of knowledge and experience, is passed by different individuals, it is not fair that the man who has devoted his whole time, morning, noon, and night, to his profession; who has been an unceasing attendant in the dissecting-room; who has sat for months over offensive subjects, until their revolting appearance through habit had almost become attractive; who, whilst his hands have been employed in laying open the works of nature, has thrown the whole force of his mind upon the subject to explore her more recondite operations; who has let no opportunity slip of collecting new facts, and arranging those in his possession; it is not fair that such a man should have no advantage over him, whose whole thoughts have been centred in most opposite things, to whom the Theatre, the Ball-room, and the Card-party, have presented more alluring attractions than the Chamber of sickness, or the Portals of Death." 56.

It appears to us that, on many accounts, the rule should be to approve, or, at all events, not to disapprove of previous treatment. Judgment is fallible, medicine difficult, symptoms deceptive, and every allowance should be made for mistakes. We all make them in turn, and no man has a *right* to be censorious. There may be extremely gross cases, where common justice and common decency require reprobation of what has been done. But *honest* error should not be exposed, and the interest both of science and the sick, to say nothing of charity, demand that confidence in the medical attendant should not be destroyed. That is (we may be wrong) our opinion, and on such we should ever act, as we would wish others so to act towards us.

Here we must conclude, recommending Mr. Banks's little book for its high tone of honour, and rigid cast of morality. It would be well for the Profession were its precepts laid to heart, and strictly acted on.

A TREATISE ON THE DISEASES OF THE HEART AND GREAT VESSELS, AND ON THE AFFECTIONS WHICH MAY BE MISTAKEN FOR THEM: Comprising the Author's View of the Physiology of the Heart's Action and Sounds, as demonstrated by his Experiments on the Motions and Sounds in 1830, and on the Sounds in 1834-5. By *J. Hope*, M.D. F.R.S. of St. George's Hospital; formerly Senior Physician to the St. Marylebone Infirmary; Extraordinary Member, and formerly President, of the Royal Medical Society of Edinburgh, &c. 8vo. pp. 639. London, John Churchill, 1839.

DR. HOPE informs us, in his Preface to this Edition, that the principal addenda may be found under the following heads:—

> 1. "The natural sounds of the heart. 2. The sound of costal percussion, with or without tinnitus (Laennec's Cliquetis). 3. Murmurs from valvular disease, and the whole subject of particular valvular diagnosis, which will now, I confidently hope, be found one of the most simple and easy departments of auscultation. 4. Murmurs of the heart and arteries independent of organic disease. 5. Venous murmurs. 6. Musical murmurs. 7. Abdominal murmurs, both connected with pregnancy, and otherwise. 8. Tremor or thrill of the heart, arteries, and veins. 9. Signs, general and physical, of pericarditis and endo-pericarditis. 10. Connection of diseases of the heart with apoplexy, palsy, &c. 11. Partial dilatation or real aneurism of the heart. 12. The signs, physical and general, and the pulse of softening. 13. Signs of adipose disease of the heart. 14. Aneurisms of the aorta bursting into the pulmonary artery and the right ventricle. 15. Abdominal aneurisms. 16. Anæmic, nervous, dyspeptic, plethoric, bilious, and other sympathetic affections of the heart, with their diagnosis. 17. Displacements. 18. The pulses of disease of the heart." vi.

The fiat of public approval may now be admitted to have been conclusively bestowed on this excellent work. Those who were acquainted with Dr. Hope's zeal, labours, and ability, might readily anticipate so much. The work itself has become a standard one, and is probably unequalled in any language, on the subject to which it is devoted. We shall notice, though not at large, some few of the additional facts contained in it, and we trust that our readers will be stimulated to make themselves possessors of the original. We shall turn to the subject of valvular disease, as on that Dr. Hope believes he has thrown much light. He considers, first, the symptoms; secondly, the physical signs.

1. *General Symptoms of Disease of the Valves.*

Dr. Hope would assign as general symptoms of disease of the valves, a greatly aggravated form of those which belong to dilatation of the ventricles. These he briefly enumerates as:—cough, copious watery expectoration in many cases, dyspnœa, orthopnœa, frightful dreams and starting from sleep, œdema of the lungs, pulmonary congestion and apoplexy, passive hæmoptysis, (i. e. sputa stained with dark or grumous blood, which occurs especially in great contraction of, or regurgitation through, the mitral valve,) turgescence of the jugular veins, lividity of the face, anasarca and dropsies in general, which in this form of disease attain their utmost degree; injection of any or all the mucous membranes; passive hæmorrhages from the same membranes; engorgement of the liver, spleen, &c. and congestion of the brain, with symptoms of oppression, sometimes amounting to apoplexy; occasionally, cerebral hæmorrhage,—all the worst symptoms, of course, of an advanced case. In the early stages, the hæmorrhages and dropsies are generally absent, and the congestive symptoms less marked. Hæmoptysis is, naturally, more rare in affection of the valves of the right than of the left side. The general symptoms result from retardation of blood in the venous system.

2. *Particular Symptoms of Disease of the Valves.*

a. When the disease is combined with hypertrophy or dilatation, as is almost invariably the case sooner or later, the symptoms are more severe than those of an equal degree of hypertrophy or of dilatation alone.

b. Diseases of certain valves impress, says Dr. Hope, in opposition to the almost universal opinion, well-defined peculiarities upon the pulse. These peculiarities he thus describes.

The Pulse in Disease of the Mitral Valve.—When the mitral valve is contracted, and also when it admits of free regurgitation, the pulse is, in various degrees, small, weak, irregular, intermittent and unequal. When either the contraction or the regurgitation is great, the whole of these characters are invariably present. But when the degree of either is slight, (when, for instance, the circumference of the orifice is not diminished more than an inch, or when the aperture for regurgitation is not larger than a goose-quill,) the effect on the pulse may only be a slight degree of weakness and intermittence, increasing when the circulation is hurried.

"Certain other affections, besides disease of the mitral valve, may render the pulse small, weak, intermittent, irregular, and unequal. These exceptions and their diagnosis must, therefore, be briefly noticed. 1. Softening of the heart, as already shown, may occasion all the above characters of the pulse in the highest degree: it may be known by the absence of valvular murmurs. When softening co-exists with mitral disease, the two will, of course, co-operate in producing the pulse in question. 2. The same pulse may be produced by pericarditis with copious effusion compressing the heart, by endocarditis causing polypi in the cavities (Bouillaud,) and by polypus in any other disease of the heart. These diseases may be severally known by their own characteristic symptoms, and by the sudden supervention of the state of pulse. 3. Dyspepsia, nervousness, biliousness, and gout may respectively occasion several, or all of the above qualities of the pulse: they may be known by the attacks of irregularity being only occasional and temporary, and by the absence of valvular murmurs." 378.

The Pulse in Contraction of the Aortic Valves.—" Contraction of the aortic valves must be very great to render the pulse small, weak, intermittent and irregular. I have never seen it possess these characters in any marked degree, unless the valves were either soldered together by cartilaginous degeneration, or more or less fixed by ossification in the closed position, so that the aperture was only a limited chink. An induration of the size of an ordinary pea has little effect on the fulness, firmness, and regularity of the pulse, and slighter degrees of contraction appear to have no effect on it whatever." 378.

The Pulse in Regurgitation through the Aortic Valves.—Such regurgitation, including that out of the aorta into the right ventricle, or into the pulmonary artery produces a pre-eminently *jerking* pulse, a high degree of the pulse of unfilled arteries, as seen in anæmia from any cause. The diastole or beat of the artery is short and quick, as if the blood were smartly jerked or shot under the finger, the vessel during the intervals feeling unusually empty. This is the most remarkable, appreciable, and constant pulse produced by disease of the heart. In the immense majority of cases, the practitioner may conjecture the disease by this sign alone. It differs from the jerking pulse of anæmia, in being more marked, and in not necessarily being frequent, as the anæmic pulse is, when its jerk is distinct. It may be absent, or scarcely appreciable, if the regurgitation be very slight; and it may be neutralized by free mitral regurgitation or great contraction, in consequence of the enfeebling effects of these lesions on the pulse.

Valvular Disease of the Right Side produces, for obvious reasons, little effect on the pulse.

e. " Pain in the region of the heart is another symptom that affords presumptions of disease of the valves. It is true that palpitation or engorgement of the heart may occasion pain, though there be no disease of the valves: I have frequently met with it from these causes in hypertrophy and dilatation. It is likewise true that palpitation may occasion pain, though there be no disease of the heart whatever; I have found it in a large proportion of hysterical, anæmic females and nervous males. But it is when the valves, the coronary arteries, or the commencement of the aorta, are indurated and inelastic, that pain occurs most frequently and with the greatest severity. Sometimes it is little more than an indescribable sense of obstruction or oppression in the præcordial region; but, in other cases, it is an intense lancinating or tearing pain, felt across the præcordia or scrobiculus cordis, (where it might be mistaken for inflammation of the stomach,) and occasionally extending, with a sense of numbness, down the inside of the left arm to the elbow, and sometimes to the fingers. Pain of this description has acquired the name of *angina pectoris*." 381.

Of the progress, terminations, and prognosis of valvular disease, it is, unfortunately needless to speak. They are too familiar. We therefore pass on to the—

Physical Signs.—Dr. Hope informs us that the accession of auscultation to the other means of diagnosis, has rendered it possible to distinguish valvular disease, both in general and particular, with almost complete certainty.

Signs of Disease of the Aortic Valves.—One of the various murmurs, *bellows*, *filing*, *sawing*, *rasping*, and *musical*, or *whistling* is heard, writes Dr. Hope, during the ventricular contraction, (i. e, with the first sound,) on the sternum, opposite to the lower margin of the third rib, and thence for about two inches or more upwards, along the course of the ascending aorta towards the right; and it is louder in these situations than below the level of the valves. Its pitch or key is usually that of a whispered *r*, from being superficial, and it accordingly conveys the idea of being pretty near to the ear. When a murmur of this kind is considerably louder along the tract of the ascending aorta than opposite to its valves, and is, at the same time, unusually near-sounding and superficial—in other words, on a higher key than a whispered *r*, it proceeds from disease of the ascending aorta itself. As the murmur from this cause is audible in the situation of the valves, it might lead to the supposition that they also were diseased, and it is sometimes very difficult to ascertain positively that they are not. That a murmur is seated in the aorta, and not in the pulmonary artery, may be known by its being inaudible or very indistinct high up the course of the pulmonary artery, while it is distinct high up that of the aorta. That a murmur is seated in the aorta or its valves, and not in the auricular valves, may be known by its sounding loud and *near* above the aortic valves, where an auricular murmur, if audible at all, sounds feeble, *remote*, and on a low key, like a whispered *who*.

"When," he continues, "there is regurgitation through the permanently open aortic valves, a murmur accompanies the second sound, and its source may be known by the following circumstances:—1. It is louder and more superficial opposite to and above the aortic valves than about the apex of the heart, by which it is distinguished from a murmur in the auricular valves with the second sound. It is louder along the course of the ascending aorta than along that of the pulmonary artery, and down the tract of the left ventricle than down that of the right; by which circumstances its seat is known to be in the aortic, and not in the pulmonic valves. This inference is strongly corroborated by the state of the pulse, which, when the aortic regurgitation is at all considerable, is singularly and pre-eminently jerking—the pulse of unfilled arteries. 3. It is distinguished from a systolic murmur in the aortic orifice by it accompanying the second sound; by its being more audible, (though with a gradual diminution,) down the course of the ventricle, than a systolic murmur; by its being prolonged through the whole interval of repose, and even through accidental intermissions of the ventricular contraction (case of W. Esq.); and by the weakness of the refluent current always imparting to it the softness of the bellows-murmur, an inferior degree of loudness, and a lower key, like whispering the word *awe* during inspiration. It often becomes musical.

Purring tremor, though necessarily produced by any considerable, salient, or rugged contraction of the aortic valves, can rarely be felt, because the sternum is interposed; but when the heart is displaced from beneath the sternum, as by hydrothorax, empyæma, emphysema, tumours, consolidation and contraction of one lung and hypertrophy of the other (case of James), &c. the tremor may then become perceptible (case of Mitchell). I have never known it accompany aortic regurgitation." 385.

Signs of Disease of the Pulmonic Valves.—"The signs of contraction of the pulmonic valves are the same as those of the aortic, with this difference; that, from the vessel being nearer the surface, the murmur with the first sound seems *closer* to the ear, and is on a higher key, ranging from the sound of a whispered *r* towards that of *s*. I have, however, known it fall below *r* when the circulation was feeble and slow, and the obstruction slight. It may be known that the murmur is not seated in the aorta, by its being inaudible, or comparatively feeble, two inches up that vessel; whereas, at a corresponding height up the pulmonary artery, it is distinct: also, by its being louder down the tract of the right ventricle than down that of the left. It may be known that the murmur does not proceed from regurgitation through the auricular valves, by its being distinct along the course of the pulmonary artery, where auricular murmurs are either wholly inaudible, or very feeble and remote.

When a murmur in the pulmonary artery is considerably louder between the second and third left ribs, close to the sternum, than opposite to the valves, and is there attended with impulse and purring tremor, dilatation of the pulmonary artery may be suspected. In one instance I have known a murmur to be produced by complete ossification of the pulmonary artery penetrating deeply into the lungs.

When there is regurgitation through the pulmonic valves, a murmur accompanies the second sound. Its nature and diagnosis are the same, (the necessary inversions being made,) as in the case of aortic regurgitation, except that the pulse is not jerking." 386.

Disease of the pulmonic valves is so rare that it should not be suspected unless the signs are perfectly marked, or some communication exists between the two sides of the heart.

Signs of Disease of the Mitral Valve.—"When the valve is permanently open, admitting of regurgitation, the first sound is attended with a murmur. It may be rough, (rasping,) or smooth, (bellows-murmur,) according to the nature of the contraction, &c. Its key is low,—more or less like whispering *who*; yet it sounds loud and *near* if explored about the apex of the heart, and a little to the sternal side of the nipple. It may thus be easily distinguished from a direct semilunar murmur, which, in this low situation, always sounds feeble and *distant*. The murmur in some cases completely drowns the natural first sound on the left side: in others, the sound can be distinguished at the commencent of the murmur." 387.

Dr. Hope has found perceptible purring tremor produced more frequently by regurgitation through the mitral valve than by any other valvular lesion, especially when the ventricle was hypertrophied and dilated.

"When the mitral valve is considerably contracted, a murmur (best heard in the same situation as the murmur from regurgitation, and distinguishable in the same way from semilunar murmurs,) attends the ventricular diastole and second sound. From the weakness, however, of the diastolic current out of the auricle, the murmur is always very feeble, soft like the bellows-sound, and usually on a rather lower key than a whispered *who*. I have found this murmur absent unless the contraction of the valve was considerable; for the blood had still sufficient room to pass with tranquillity; and I have also found it absent when the contraction was *great*—when, for instance, the aperture admitted one finger only, or merely a quill, provided the current was preternaturally weakened by softening, by extreme dilatation of the heart, or by both. In such cases, however, the mitral disease would not be overlooked, as there is almost invariably a murmur from regurgitation. On the whole, this murmur is exceedingly rare." 388.

Signs of Disease of the Tricuspid Valve.—They are the same as those of the mitral, except that the murmurs are loudest on or near the sternum, at the same level as in the case of the mitral—namely, about or a little above where the apex beats. But as the tricuspid valve is rarely so much diseased as to cause a murmur, the practitioner must be very cautious how he pronounces it affected.

Signs of Disease of the Arterial and Auricular Valves conjointly.—The murmurs, says our able author, above described as characteristic of each, exist simultaneously in both. The auscultator has merely to take especial care that he explores the arterial murmurs as high up the vessels, and the auricular murmurs as low down the heart as possible. He will thus readily satisfy himself that there are two distinct sources of murmur. It is still easier to determine this, if the murmur attending either sound be of a different *species* in the two situations—if, for instance, the murmur of the aortic or pulmonic valves be of the *soft* bellows-kind, while that of the auricular valve is of the *rough,* grating or rasping kind, or *vice versâ.*

Diagnosis of Valvular from Inorganic Murmurs.—Bellows-murmur sometimes exists in the heart, without valvular disease, in anæmic persons, who are generally nervous—in excessive hæmorrhage, and the re-action following it—and in a few cases of hypertrophy with dilatation.

" Murmur from these causes may easily be distinguished from that of valvular disease by the following criteria.

1. It is confined to the aortic orifice, (so far as I have yet discovered,) and to the first sound. Here is one of the great advantages of *particular* valvular diagnosis, as the auscultator can at once exclude the other seven murmurs to which the heart is liable from organic causes only.

2. *It is always weak, and of the soft or bellows kind.*

3. In the anæmic, it is almost invariably attended with a continuous venous murmur in the jugulars, and mostly with a short bellows-whiff, in the carotids, subclavians, and other principal arteries, synchronous with the first sound of the heart.

4. It exists in the anæmic during temporary excitement of the circulation only, subsiding when palpitation ceases and the pulse falls to its natural standard; but as the pulse is permanently quick in considerable anæmia affecting irritable, nervous subjects, especially females; also during the period of reaction after excessive loss of blood, the murmur will persist until the pulse falls by the subsidence of the states in question.

5. The murmur, both of the heart, arteries, and veins, wholly ceases when the anæmia is cured by iron and animal food, the venous murmur being the last that becomes extinct.

When a murmur proceeds from hypertrophy with dilatation, it may be known by its diminishing or ceasing when the action of the heart is calmed, as by repose, venesection, digitalis, &c. In most, if not all cases, this murmur is dependent merely on anæmia, which is very apt to supervene in the advanced stages of hypertrophy with dilatation.

Contrasted with the above, the distinctive characters of valvular murmurs are, 1. That they are not, like inorganic murmurs, restricted to the aortic orifice and first sound, but may be connected with any of the four orifices and with either sound in each: 2. That they persist without intermission for an indefinite length of time, even though the heart be kept in a state of perfect calm: 3.

> That they are often of a *rough* character, that is, filing or rasping; whereas, inorganic murmurs have always the softness of the bellows-sound.
>
> Such are the signs which, together with the general symptoms, are, according to my experience, the best for the detection of the diseases of the valves. In the first edition of this work, where the signs were less fully developed, I was enabled to say that 'for several years they had never deceived me as to the general fact whether there was or was not valvular obstruction, and that they had seldom failed to indicate, with perhaps more than necessary precision, the situation of the affection.' I may now venture to add, that, with the improvements introduced in the present edition, the particular diagnosis is even more easy and certain than the general; because a practitioner competent to make the latter only, is more liable to be deceived by inorganic murmurs." 390.

These must be admitted to be very valuable additions to our means of diagnosis in diseases of the heart.

In the following remarks upon the value of an accurate diagnosis, we quite coincide with Dr. Hope. But their application need not be restricted to this particular case. It may be made more wide, and tell as truly of other diseases, as of valvular affections of the heart.

> " If it be said that particular valvular diagnosis is a useless refinement, it may be replied that non-auscultators used to say the same of auscultation in general. The truth is, that every improvement in diagnosis is an advantage to the practice of medicine. No one, for instance, will deny the importance of distinguishing inorganic from organic murmurs, as the treatment for the two is diametrically opposite; and this distinction, it has been shown, is remarkably facilitated by particular valvular diagnosis. Again, the pulse, without particular diagnosis, is unintelligible even to the most learned, as Corvisart, Laennec, &c., and has betrayed them into grievous practical errors. Further, disease of certain valves is more injurious and dangerous than that of others. Unless, therefore, the practitioner is able to specify the valve diseased, he cannot nicely adapt his treatment to the exigencies of the case, but must in some instances be uselessly rigid, and in others dangerously lax." 391.

As an appendix, Dr. H. adverts to a few unusual and curious sources of murmur, independent of valvular disease, which might be sources of fallacy.

> " 1. I had a patient in the St. Mary-le-bone Infirmary, in whom I, as well as the apothecary Mr. Hutchinson, noticed a distinct murmur along the ascending aorta on some occasions, and not the slightest on others. I was much perplexed, and could not make up my mind as to the existence of valvular or aortic disease. The patient died of phthisis, and on post-mortem examination, it was found that the anterior edge of the left lung, completely indurated by tubercular deposition, pressed so exactly on the ascending aorta as actually to have taken its mould, though without adhering. It was now recollected that the murmur had always been heard when she lay on her back or inclined to the right side, but not when inclined to the left: hence we ascribed it to pressure of the lung on the aorta when the position of the body caused it to gravitate towards the right side.
>
> 2. Two students of University College called on me, one with slight hypertrophy with dilatation, and violent palpitation from great nervous excitability,—the pulse. for instance, being 120; the other was exempt from organic disease, but affected with violent nervous palpitation, the pulse here also being 120. Both wore very tight waistcoats, preventing the expansion of the lower ribs. During this state of breathing, with the lungs insufficiently inflated, a slight bellows-murmur with the first sound over the semilunar valves existed in both. It was not, however, *exactly* synchronous with that sound, but began an instant

later, as if from a separate cause. In both, the murmur ceased *entirely* when, unbuttoning their waistcoats and waistbands of their trowsers, they breathed with the lungs naturally inflated. By alternating the circumstances, the murmur could be created or removed at pleasure. I presume, therefore, that it proceeded from a cause exterior to the heart; and, as the murmur was an instant later than the first sound, the most probable appears to be, that, in the contracted state of the chest, the violent beats of the heart compressed the lung, and, by suddenly expelling its air, created a murmur.

3. Dr. Elliotson mentions two or three cases somewhat analogous. In one —a case of ascites—a bellows-murmur with the first sound, in the region of the left ventricle, instantly ceased on the removal of the fluid from the abdomen; but when it re-accumulated, the sound again became audible. In another case—a young woman with chronic bronchitis, dyspnœa, livid lips and œdematous legs—no murmur existed while she was erect, but it became audible the moment she lay down (Lum. Lecs. p. 18). Dr. Elliotson conjectures that, in the first case, the elevation of the heart by the abdominal fluid might have tilted the organ to an angle with the commencement of the aorta; and, in the second case, he thinks that the cessation of the murmur when the patient was erect, depended on the ventricle being, by gravitation, drawn down more into a straight line with the aorta, when an easier exit was given to the blood. Another conjecture in which he indulges, but to which I cannot assent, is, that dilatation of the right auricle, by pressing against the aorta, might have occasioned the murmur in both.

I have not data by which to decide these points, but the practical inference is, that, in cases of slight bellows-murmur with the first sound, and connected with the arterial orifices, (for the fallacy cannot apply under any other circumstances,) we should not decide till we have ascertained that the murmur continues in the erect as well as the recumbent position, and also while the chest is totally unrestrained by ligatures. I have at present a case of an exceedingly anæmic girl, æt. 17, in whom a venous murmur in the vena innominata was propagated down the great vessels, especially the pulmonary artery, and led a young auscultator into the error of supposing that there was disease of the pulmonic valves." 393.

We have presented the whole, or almost the whole, of Dr. Hope's observations on the diagnosis of valvular diseases of the heart. They tend to throw an unexpected degree of light on affections which before were most obscure, and indeed were given up as enfans perdus in diagnosis.

If we do not at present notice other portions of the volume, it is because the present is not quite a convenient opportunity to do so. We shall couple Dr. Hope's with some other work, and extract such facts or such observations (and they are many) as elucidate a most important, and often an exceedingly obscure class of diseases. In the mean time we recommend this edition very strongly to our readers.

ANATOMY AND PHYSIOLOGY.

I. The Cyclopædia of Anatomy and Physiology. Edited by *Robert Todd,* M.D. F.R.S. &c. &c. Parts XV. XVI. XVII. and XVIII.

We have hitherto omitted noticing the latter Parts of this excellent work. This has been owing to the press of other matter, for the work itself has maintained its character and continued to do credit to its writers and its editor.

We shall select from among the articles contained in the Parts before us, two or three of a physiological, and generally interesting character. Our senior readers will not, perhaps, be displeased at occasionally having the opportunity afforded them of bringing up their knowledge of physiology to the actual level of the day.

The first subject to which we shall allude is hibernation. It has been treated very happily by Dr. Marshall Hall, who has devoted, as our readers must be well aware, considerable pains and his usual talents to its investigation.

I. On Hibernation.

Dr. Hall observes:

"It has not hitherto been distinctly ascertained to what extent the state of hibernation prevails in the animal kingdom; the bat, the hedgehog, and the dormouse, are the genera which present us with the most marked examples of this singular physiological condition in this country; to these the elegant authoress of 'Sketches of Natural History' has added the water-rat and the wood-mouse, observing of the former—

"And when cold winter comes and the water-plants die,
And his little brooks yield him no longer supply,
Down into his burrow he cozily creeps,
And quietly through the long winter-time sleeps."

The following quotation will be found to afford the key to Dr. Hall's views on the nature of hibernation. It is long but indispensable.

"There is in my opinion, an ultimate *law* of animal existence, which seems to regulate the different forms in which the different classes of animals present themselves. The quantity of respiration is inversely as the degree of irritability of the muscular fibre, the former being marked by the quantity of oxygen consumed in a given time, ascertained by the pneumatometer, the latter by the force of galvanism necessary to demonstrate its existence. The bird tribes have a high respiration and a low irritability; the reptiles have a high degree of irritability and little respiration. This law obtains not only in the different tribes of animals, but also in the different stages or states of the same individual, the *structural* changes from one stage to another being always a change from a lower to a higher respiration, and from a higher to a lower degree of irritability, and the change of state, a change in the opposite direction: thus the changes from the egg to the bird, from the tadpole to the batrachian form, from the larva to the chrysalis and the insect condition, are changes in which, whilst a due ratio is constantly maintained, the quantity of respiration is augmented and the degree of irritability diminished; on the other hand, the *physiological* changes in the degree of activity in animals, during sleep, for example, but especially in that remarkable change which is the subject of this article, the respiration is diminished whilst the degree of irritability is, *pari passu*, augmented.

On what this susceptibility of change depends, and especially on what the power of taking on an augmented irritability depends, is at present unknown. But I think I may affirm that it is upon this power that the capability of passing into the state of hibernation reposes. I suppose that all animals have the faculty of sleeping; during sleep the respiration is slightly diminished, the irritability probably proportionately augmented—probably one ultimate object of this state of repose; but the phenomenon has its appointed limit which it cannot pass. In certain animals, that limit is not so confined,—the quantity of respiration is still further diminished, the degree of irritability still further augmented, and the deeper sleep, or lethargy, of hibernation takes place.

During this lethargy, the law of the inverse ratio of the respiration and of the irritability still prevails, and the animal merely puts on a reptile state in these respects. Were the respiration to be diminished without the appointed augmentation of the irritability, the heart would cease to be stimulated, and the animal would die, as in the cases of torpor and slow asphyxia; were the respiration augmented without the proportionate diminution of the irritability, the heart would be over-stimulated, and death would alike ensue, as in the case of a hibernating animal too suddenly roused from its lethargy, and as (probably) in the case of an animal placed in pure oxygen gas.

The difference between the hibernating and all other animals then is, an ultimate faculty of assuming an augmented degree of irritability of the muscular fibre—a power possessed by all animals within certain limits, but by the hibernating animal beyond the usual limit." 765.

This is the dominant idea of the article. It has been generally believed that hibernation depends on the animal's not being able to generate heat sufficiently to resist a low temperature. Dr. Hall lays it to the faculty of assuming an augmented degree of irritability of muscular fibre. It must be owned that neither theory explains the phenomenon satisfactorily. Milne Edwards the advocate of the former, remarks:—" Nous voyons que les chauves-souris produisent habituellement moins de chaleur que les animaux à sang chaud, et que c'est principalement à cette cause qu'il faut attribuer l'abaissement de leur température pendant la saison froide. En comparant cette expérience sur la chauve-souris adulte avec celles que nous avons faites sur les jeunes animaux à sang chaud, on y aperçoit un rapport remarquable; ils ne produisent pas assez de chaleur pour soutenir une température élevée, lorsque l'air est à un degré voisin de zéro. Mais il y a cette difference, que c'est un état passager chez les jeunes animaux à sang chaud, et qu'il est permanent chez les chauves-souris.

" Il est évident que les autres mammifères hibernans doivent participer plus ou moins de cette manière d'être. Les faits que j'ai exposés suffisent pour nous faire considérer ce groupe d'animaux sous le point de vue suivant; qu'au printemps et en été, dans leur état d'activité et de veille, lorsque leur température est assez élevée pour ne pas différer essentiellement de celle qui caractérise les animaux à sang chaud, ils n'ont pas la faculté de produire autant de chaleur; et tout en admettant que d'autres causes peuvent influer sur leur refroidissement pendant leur hibernation, il faut cependant l'attribuer en grande partie à cette particularité de leur constitution." But as Dr. Hall observes this explanation would account for torpor, a pathological and a fatal state, not for hibernation, a natural and a harmless one. Dr. Hall's own explanation does little more than put the fact of hibernation in scientific terms—when analysed it resolves itself into the expression, *that* certain animals have the power of hibernating. To say that the irritability of the muscular fibre is increased, is to say little else than all were aware of, for as the heart was known to beat while the respiration was imperfect, and the changes in the blood incomplete, it followed of course that the heart contracted under the influence of a feeble stimulus, or, in other words, that its irritability was augmented.* The *how* is left involved in the same obscurity as heretofore; indeed, supposing Milne Edwards' explanation unobjectionable, it would be more satisfactory as an explanation than that of Dr. Hall.

This gentleman not only compares hibernation with sleep, but he even goes so far as to believe that it is nothing but profound sleep. He says:—Hibernation appears more extraordinary only because less familiar than sleep. Most animals are, in fact, naturally awake and asleep every revolving day, some being diurnal, others nocturnal. But in summer the bat actually hibernates, loses its respiration, and with its respiration its temperature, acquires vastly augmented irritability, and presents the other phenomena of *complete* hibernation, regularly and periodically every twenty-four hours; and the hedgehog and the dormouse present similar phenomena, only after other intervals.

This would seem to shew that Dr. Hall looks on the law of periodicity, whatever that may be, as being essentially the law of hibernation. He holds the influence of diminished temperature cheap. He goes on to state·—

"Sleep then is the first stage of hibernation. The faculty of passing into the second is identical with that of assuming a greatly augmented irritability of the muscular fibre. Such are the results of my long attention to this interesting physiological question. Much error has arisen from viewing hibernation as a simple effect of cold. The influence of cold in inducing hibernation is merely its well-known influence in inducing sleep, concurring with the other causes of this condition. The direct effect of cold on the animal frame is, as I shall shortly have occasion to state particularly, totally different from hibernation. Hibernation is a physiological condition; the direct effect of cold, or *torpor*, is, on the contrary, a pathological and generally a fatal one.

The term hibernation has usually been applied to designate what its etymology implies, the condition in which certain animals pass the *winter* season. An error is, as I have already stated, involved in this view of the subject; for the condition termed hibernation is not confined to the winter season. Cuvier observes, in speaking of the Tenrecs, 'ce sont des animaux nocturnes qui passent trois mois de l'anné en lethargie, quoique habitants de la zône torride. Burguière assure même que c'est pendant les grandes chaleurs qu'ils dorment.' Hence the term *Sommerschlaf* employed in Germany. It is plain too, from this circumstance, that the state of hibernation is not necessarily connected with a low degree of external temperature, and we are surprised to find this celebrated naturalist, whom I have just quoted, observing, 'la seule condition de la lethargie est le froid et l'absence des causes irritantes.'

I must repeat that hibernation is, in every respect, but the parallel of ordinary sleep, varying only in force and duration. It is equally modified by co-operating or opposing causes; and it is equally manifested in its peculiar effects, only varying in degree and intensity." 766.

---

* It must, on consideration, be obvious to Dr. Hall himself, that he has enunciated no new law. We were all aware that the reptilia and amphibia whose blood is but semi-aerated are distinguished for irritability of muscular fibre.

Dr. Hall goes on to remark that, to understand hibernation, we must look at it as it affects every function; and he deems it necessary to ascertain first what sleep, the initiative of hibernation, is. Sleep affects the cerebral system only—the true spinal, or excito-motory retains all its energies. But, he remarks, in the state of activity, the cerebral system exerts a peculiar and continual influence over the true spinal, which ceases during sleep. In this manner the functions of the latter appear impaired; the respiration especially, and with the respiration the circulation, with which it always maintains a certain relation, becomes slower, irregular, and suspended at intervals. These phenomena observable in ordinary sleep are still more remarkable in the deep sleep or lethargy of hibernation or diurnation.

Of the Sleep of Hibernating Animals.—Dr. Hall states, as the result of his own observations, *that*, in the sleep of the hibernating animal, the respiration is more or less impaired: if the animal be placed in circumstances which best admit of observation, the acts of respiration will be found to have greatly diminished; if it be placed in the pneumatometer, little alteration is induced in the bulk of the air; if its temperature be taken by the thermometer, it will be found to be many degrees lower than that of the animal in its active state; if it be deprived of atmospheric air, it is not immediately incommoded or injured.

"The bat, which is a crepuscular or nocturnal feeder, regularly passes from its state of activity to one which may be designated *diurnation*. The respiration and the temperature fail; the necessity for respiration is greatly lessened.

During the summer of 1831, I carefully observed a bat in this condition. If it were quite quiet, its respiration became very imperfect; its temperature was but a few degrees above that of the atmosphere; being placed under water, it remained during eleven minutes uninjured, and on being removed became lively and continued well.

I have more recently watched the habits of two hedgehogs, in a temperature varying from 45° to 50°. These animals alternately awake, take food, and fall asleep. One of them is frequently awake, whilst the other is dormant, and goes to sleep at a time that the other awakes, but without regularity. When awake, the temperature of each, taken by pressing the bulb of a thermometer upon the stomach, is about 95°; when dormant, it is 45°; that of the atmosphere being 42° or 43°. The duration of this sleep is from two to three days, according to the temperature of the atmosphere. On the 4th of February, 1832, the temperature of the atmosphere being 50°, both the hedgehogs were dormant,—the temperature of one was 51°, and that of the other 52°; on the succeeding day, the temperature of the atmosphere had fallen one degree, the temperature of one of the hedgehogs was 49°, whilst that of the other, which had become lively, had risen to 87°; on the succeeding day, the first had become somewhat lively, and its temperature had risen to 60°, that of the other being 85°, and that of the atmosphere 47°.

I have observed precisely the same alternations in the dormouse; except that this animal awakes daily in moderate temperatures, takes its food, and re-passes into a state of sleep, in which the respiration is greatly impeded, and the temperature little higher than that of the atmosphere.

On the day on which the observations were made on the hedgehogs, the atmosphere being 49°, that of two dormice was 52°; on the succeeding day, the external temperature being 47°, that is, lower by two degrees, the temperature of one of these dormice was 92°, and that of the other 94°; and only three hours afterwards, the temperatures were 60° and 70° respectively, with a slight appearance of lethargy.

The hedgehog and the dormouse appear, in fact, to awake from the call of hunger, then to eat, and then again to become dormant, in temperatures which may be termed moderate. The bat, which could not find food if it did awake, does not undergo these periodical changes, except in the summer season. It appears to me, from the most careful observation, that there is every degree between the ordinary sleep of these animals and the most profound hibernation.

It is quite obvious, from these observations, that the ordinary sleep of hibernating animals differs from that of others, by inducing a more impaired state of the respiration and of the evolution of heat, with an augmented power of bearing the abstraction of the atmospheric air. This sleep probably passes into true hibernation, as the blood which circulates through the brain becomes more and more venous, from the diminution of the respiration, and as the muscular fibre of the heart acquires increased irritability." 767.

Dr. Hall continues:—

It is absolutely necessary, in comparing the powers of hibernating and other animals, of evolving heat, accurately to observe whether there be any tendency to sleep. Mr. Hunter's and M. Edwards's experiments are deficient for want of this attention. Mr. Hunter, comparing the common mouse and the dormouse, exposed to a very low temperature, observes, that the temperature of the former was "diminished 16° at the diaphragm, and 18° in the pelvis; while in the dormouse it gained five degrees, but lost on a repetition." The explanation of these facts is afforded by the observation, that when the dormouse increased in temperature it was "very lively," but that on the "repetition" it had become "less lively;" the mouse was probably in a state of languor from apprehension or for want of food.

M. Edwards omits to mention whether the hibernating animals, in his experiments, were disposed to be lively or dormant, or whether they had recently recovered from the dormant state. He does not even mention whether the experiments on the bat were performed in the evening, its period of activity, or in the morning or day, its period of lethargy or diurnation. Without a particular attention to these points, no correct result could be obtained. The hibernating animal, in a state of vigour and activity, is a totally different being from the same animal disposed to become dormant.

In order to perform this experiment in a satisfactory manner, the bat, for example, should be employed in the evening, when it has naturally awoke from its deep day-slumber, the hedgehog when it has awoke spontaneously to take food; otherwise the disposition to sleep may explain the loss of temperature.

Of Perfect Hibernation.—Dr. Hall offers as the abbreviated result of a series of observations and experiments made in the course of the years 1831-2, *that*, there is *one* special cause of hibernation,—that law imposed by the Creator, according to which *all* animals become affected with sleep at some period of each revolving day, and the hibernating animal at some period of the revolving year. We have thus presented to us the phenomena of diurnal and nocturnal animals, and the winter-sleep and the summer-sleep of hibernating animals.

Exposure to cold, not too severe, disposes to hibernation, as it disposes to ordinary sleep. Severe cold, on the contrary, first rouses the hibernating animal from its lethargy, and then plunges this and all animals into a state of fatal torpor.

The absence of every kind of stimulus or excitant, and a somewhat confined atmosphere,* also conduce to hibernation.

Every excitement, on the contrary, that of hunger, that of the sexes probably, tend to disturb this peculiar lethargy. It is in this manner that we explain the periodicity of sleep and hibernation, though there is probably also some hidden influence of the seasons, of the day or of the year, influences which have been traced by Dr. Prout and by M. Edwards in regard to the quantity of respiration.

Dr. Hall proceeds to examine the influence of hibernation on the several functions.

A. *Sanguification.*—"There is much difference," says our author, "in the powers of digestion, and in the fact of omitting to take food, in the hibernation of different animals. The bat, being insectivorous, would awake in vain; no food could be found: the hedgehog might obtain snails or worms, if the ground were not very hard from frost: the dormouse would find less difficulty in meeting with grain and fruits. We accordingly observe a remarkable difference in the habits of awaking from their lethargy or hibernation, in these different animals.

I have observed no disposition to awake at all in the bat, except from external warmth or excitement. If the temperature be about 40° or 45°, the hedgehog, on the other hand, awakes, after various intervals of two, three, or four days passed in lethargy, to take food; and again returns to its state of hibernation. The dormouse, under similar circumstances, awakes daily.

Proportionate to the disposition to awake and take food, is the state of the functions of the stomach, bowels and kidneys. The dormouse and the hedgehog pass the fæces and urine in abundance during their intervals of activity. The bat is scarcely observed to have any excretions during its continued lethargy.

In the dormouse and the hedgehog, the sense of hunger appears to rouse the animal from its hibernation, whilst the food taken conduces to a return of the state of lethargy. It has already been observed, that there are alternations between activity and lethargy in this animal, with the taking of food, in temperatures about 40° or 45°. Nevertheless, abstinence doubtless conduces to hibernation, by rendering the system more susceptible of the influence of cold, in inducing sleep and the loss of temperature. The hedgehog, which awakes from its hibernation, and does not eat, returns to its lethargy sooner than the one which is allowed food." 769.

Dr. Hall observes that the *respiration* is nearly suspended in hibernation, which is proved, 1st, by the absence of all detectable respiratory acts; 2dly, by the almost entire absence of any change in the air of the pneumatometer; 3dly, by the subsidence of the temperature to that of the atmosphere; and 4thly, by the capability of supporting, for a great length of time, the entire privation of air.

1. "I have adopted various methods to ascertain the entire absence of the acts

---

* M. de Saissy observes, "la marmotte, que j'ai engourdie par deux fois différentes, ne l'a été, je crois, que parceque je me suis avisé, quand la respiration a été bien affaiblie, de boucher le trou du couvercle. Ce n'a été que de cette manière que je suis parvenu à l'engourdir; car toutes les tentatives que j'avais faites avant ont été vaines."

of respiration. I placed bats in small boxes, divided by a partition of silk riband, the cover of which consisted of glass, and in the side of which a small hole was made to admit of placing a long light rod or feather under the animal's stomach. The least respiratory movement caused the extremity of this rod to pass through a considerable space, so that it became perfectly apparent.

Over the hibernating hedgehog I placed a similar rod, fixing one extremity near the animal, and leaving the other to move freely over an index. During hibernation not the slightest movements of these rods could be observed, although they were diligently watched. But the least touch, the slightest shake immediately caused the bat to commence the alternate acts of respiration, whilst it invariably produced the singular effect of a deep and sonorous inspiration in the hedgehog. It is only necessary to touch the latter animal to ascertain whether it be in a state of hibernation or not: in the former case there is this deep sonorous inspiration; in the latter, the animal merely moves and coils itself up a little more closely than before. After the deep inspiration, there are a few feeble respirations, and then total quiescence. The bat makes similar respirations without the deep inspiration, and then relapses into suspended respiration.

2. As the acts of respiration are nearly suspended during hibernation, so are the changes induced in the atmospheric air.

On January the 28th, the temperature of the atmosphere being 42°, I placed a bat in the most perfect state of hibernation and undisturbed quiet, in the pneumatometer, during the whole night, a space of ten hours, from 1h. 30m. to 11h. 30m. There was no perceptible absorption of gas.

Having roused the animal a little, I replaced it in the pneumatometer, and continued to disturb it from time to time, by moving the apparatus. It continued inactive, and between the hours of 1h. 20m. and 4h. there was the absorption of one cubic inch only of gas.

Being much roused at four o'clock, and replaced in the pneumatometer, the bat now continued moving about incessantly; in one hour, five cubic inches of gas had disappeared. It was then removed. A further absorption took place of ·8 of a cubic inch of gas.

Thus the same little animal, which, in a state of hibernation, passed ten hours without respiration, absorbed or converted into carbonic acid, 5.8 cubic inches of oxygen gas in one hour when in a state of activity. In an intermediate condition, it removed one cubic inch of oxygen in two hours and forty minutes." 769.

Dr. Hall twice repeated the experiment with substantially similar results. For, 3·4 cubic inches of oxygen gas disappeared in sixty hours, from the respiration of a bat in the state of lethargy; while, during the state of activity of the animal, an equal quantity of the same gas disappeared in less than half that number of minutes.

"It may be a question whether the slight quantity of respiration I have mentioned be cutaneous. The absence of the acts of respiration would lead us to this opinion. But it may be observed, that these acts have not been watched, and can scarcely be watched continuously enough, to determine the question of their entire absence. Some contrivance to ascertain whether the rod has moved along the index during the absence of the observer would resolve every doubt upon this interesting point. And I think it right to remark, that after the apparent total cessation of respiration, as observed by the means which have just been described, there is probably still a slight diaphragmatic breathing. I am led to this conclusion, by having observed a slight movement of the flank in a favourable light, unattended by any motion of the thorax or epigastrium." 769.

4. Dr. Hall insists on the necessity of great precautions in ascertaining

the comparative temperature of the animal and of the atmosphere. He subjoins a table which gives the result of observations made during many days, in very varying temperatures. From this, he says, it is obvious that the temperature of the hibernating animal accurately follows that of the atmosphere. When the changes of temperature in the latter are slight, the two thermometers denote the same temperature. If these changes are greater and more rapid, the temperature of the animal is a little lower or higher, according as the external temperature rises or falls; a little time being obviously required for the animal to attain that temperature.

It is only necessary to add to these observations, that the internal temperature is about three degrees higher than that of the epigastrium. In two bats, the external temperature of each of which was 36°, a fine thermometer, with an extremely minute cylindrical bulb, passed gently into the stomach, rose to 39°.

4. It is not astonishing that the lethargic animal is enabled to bear the total abstraction of atmospheric air or oxygen gas, for a considerable period of time. Dr. Hall remarks that:—

Spallanzani placed a marmot in carbonic acid gas, and makes the following report of the experiment in a letter to Senebier: "Vous vous ressouviendrez de ma marmotte qui fut si fortement léthargique dans l'hiver sévère de 1795; je la tins alors pendant quatre heures dans les gaz acide carbonique, le thermomètre marquant—12°, elle continua de vivre dans ce gaz qui est le plus mortel de tous, comme je vous le disais: au moine un rat et un oiseau que j'y plaçai avec elle y périrent à l'instant même. Il parait donc que sa respiration fut suspendu pendant tout ce tems-là. Je soumis à la même experience des chauve-souris semblablement léthargiques et le résultat fut le même."

A bat which was lethargic in an atmosphere of 36° was immersed in water of 41°. It moved about a little, and expelled bubbles of air from its lungs. It was kept in the water during sixteen minutes, and then removed. It appeared to be uninjured by the experiment.

A hedgehog which had been so lethargic in an atmosphere of 40° as not to awake for food during several days, was immersed in water of 42°. It moved about and expelled air from its lungs. It was retained under the water during 22½ minutes. It was then removed. It appeared uninjured.

It seems probable that the motions observed in these animals were excited through the medium of the cutaneous nerves.

The power of supporting the abstraction of oxygen gas, or atmospheric air, belongs solely to the hibernating state, and is no property of the hibernating animal in its state of activity. Dr. Hall immersed an active hedgehog in water. It expired in three minutes, the period in which immersion proves fatal to the other mammalia.

5. "The *circulation* is reduced to an extreme degree of slowness, according to a law well-known, but hitherto, I believe, unexplained, according to which the respiration and the circulation are always proportionate to each other.

The wing of the bat affords an admirable opportunity of observing the condition of the circulation during hibernation. But it requires peculiar management. If the animal be taken from its cage, and the wing extended under the microscope, it is roused by the operation, and its respiratory and other movements are so excited, that all accurate observation of the condition of the circulation in the minute vessels is completely frustrated. Still greater caution is required in this case than even in the observation of the respiration and temperature.

After some fruitless trials, I at length succeeded perfectly in obtaining a view of the minute circulation undisturbed. Having placed the animal in its state of hibernation, in a little box of mahogany, I gently drew out its wing through a crevice made in the side of the box; I fixed the tip of the extended wing between portions of cork; I then attached the box and the cork to a piece of plate-glass; and lastly, I left the animal in this situation, in a cold atmosphere, to resume its lethargy.

I could now quietly convey the animal ready prepared, and place it in the field of the microscope without disturbing its slumbers, and observe the condition of the circulation.

In this manner I have ascertained that, although the respiration be suspended, the circulation continues uninterruptedly. It is slow in the minute arteries and veins; the beat of the heart is regular, and generally about twenty-eight times in the minute.

We might be disposed to view the condition of the circulation in the state of hibernation as being reptile or analogous to that of the batrachian tribes. But when we reflect that the respiration is nearly, if not totally, suspended, and that the blood is venous, we must view the condition of the circulation as in a lower condition still, and, as it were, sub-reptile. It may, indeed, be rather compared to that state of the circulation which is observed in the frog from which the brain and spinal marrow have been removed by minute portions at distant intervals.

In fact, in the midst of a suspended respiration, and an impaired condition of some other functions, one vital property is augmented. This is the irritability, and especially the irritability of the left side of the heart. The left side of the heart, which is, in the hibernating animal, in its state of activity, as in all the other mammalia, only arterio-contractile, becomes veno-contractile.

This phenomenon is one of the most remarkable presented to me in the whole animal kingdom. It forms the single exception to the most general rule amongst animals which possess a double heart. It accounts for the possibility of immersion in water or a noxious gas, without drowning or asphyxia; and it accounts for the possibility of a suspended respiration, without the feeling of oppression or pain, although sensation be unimpaired. It is, in a word, this peculiar phenomenon, which, conjoined with the peculiar effect of sleep in inducing diminished respiration in hibernating animals, constitutes the susceptibility and capability of taking on the hibernating state. On the other hand, as the rapid circulation of a highly arterialized blood in the brain and spinal marrow of birds probably conduces to their activity, the slow circulation of a venous blood doubtless contributes to the lethargy of the hibernating animal." 772.

6. When we turn to the *nervous system*, our author assures us that sensation and volition are quiescent, while the excito-motory, the true spinal system, retains its energy. Thus the slightest touch applied to one of the spines of the hedgehog immediately rouses it to draw a deep inspiration. The merest shake induces a few respirations in the bat. The least disturbance, in fact, is felt, as is obvious from its effect in inducing motion in the animal.

It is from misconception on this point that the error has arisen, that the respiration is not absolutely suspended in hibernation. This function has been so readily *re-excited*, that it has been considered as appertaining to the state of hibernation.

7. In the midst, says our able physiologist, of a suspended or partially

suspended respiration, the *irritability* of the muscular fibre becomes proportionately augmented.

The single fact of a power of sustaining the privation of air, without loss of life, leads alone to the inference that the irritability is greatly augmented in the state of hibernation. This inference flows from the law already stated, and the fact is one of its most remarkable illustrations and confirmations.

It might have been inferred from these premises, that the beat of the heart would continue longer after decapitation in the state of hibernation than in the state of activity in the same animal; an inference at once most singular and correct.

"This view," he continues, "receives the fullest confirmation from the following remarkable experiment: on March the 9th, soon after midnight, I took a hedgehog which had been in a state of uninterrupted lethargy during 150 hours, and divided the spinal marrow just below the occiput; I then removed the brain and destroyed the whole spinal marrow as gently as possible. The action of the heart continued vigorous during four hours, when, seeing no prospect of a termination to the experiment, I resolved to envelope the animal in a wet cloth, and leave it until early in the morning. At 7 o'clock A.M. the beat of both sides of the heart still continued. They still continued to move at 10 A.M., each auricle and each ventricle contracting quite distinctly. At half-after 11 A.M. all were equally motionless; yet all equally contracted on being stimulated by the point of a penknife. At noon the two ventricles were alike unmoved on being irritated as before; but both auricles contracted. Both auricles and ventricles were shortly afterwards unirritable.

This experiment is the most extraordinary of those which have been performed upon the mammalia. It proves several interesting and important points: 1. That the irritability of the heart is augmented in continued lethargy in an extraordinary degree. 2. That the irritability of the left side of the heart is then little, if at all, less irritable than the right,—that it is, in fact, veno-contractile. 3. That, in this condition of the animal system, the action of the heart continues for a considerable period independently of the brain and spinal marrow.

On April the 20th, at six o'clock in the evening, the temperature of the atmosphere being 53°, a comparative experiment was made upon a hedgehog in its state of activity: the spinal marrow was simply divided at the occiput; the beat of the right ventricle continued upwards of two hours, that of the left ventricle ceased almost immediately; the left auricle ceased to beat in less than a quarter of an hour; the right auricle also ceased to beat long before the right ventricle." 773.

Dr. Hall quotes from a paper of Mangili, in the Annales du Muséum, some further experiments strikingly corroborative of the preceding, and highly interesting in themselves. We shall seize the opportunity of quoting them:—

"J'observai à peu près les mêmes choses dans une autre marmotte en léthargie, que je décapitai le 22 de Mars, 1807. Mais en ouvrant celle-ci, j'avois deux objets: le premier, d'examiner l'état des viscères les plus importans, comme le cœur, les poumons et le cerveau. Le second étoit de voir comment procédent les phénomènes de l'irritabilité musculaire; parce qu'ayant entendu dire à un célèbre naturaliste, que l'engourdissement avoit pour cause l'altération ou la suspension de cette irritabilité, il m'importoit de savoir si cette assertion étoit vraie. Dans la chambre où se trouvoit la marmotte, le thermomètre étoit à 6 degrés et demi; l'ayant introduit dans le bas ventre, il monta d'un degré, c'est-à-dire à 7 degrés et demi.

Je trouvai le les poumons dans leur état naturel. Le cœur continua à battre pendant plus de trois heures. Les pulsations, d'abord vives et frequentes, s'affoiblirent et se ralentirent peu-à-peu. J'en avois compté de seize à dix-huit par minute au commencement de la première heure; à la fin de la troisième je n'en comptois plus que trois dans le même temps. Les veins du cerveau me parurent gonflés de sang.

La tête unie au cou ayant été séparée du tronc, je la mis dans un vase avec de l'esprit-de-vin, et j'y remarquai, même après une demi-heure, des movemens assez sensible. Ce fait prouve, ainsi que plusieurs autres dont je parlerai beintôt, que si dans l'état de léthargie conservatrice la vie est beaucoup moins énergique, le principe vital répandu dans les diverses parties, a beaucoup plus de tenacité, et tarde bien plus à s'éteindre.

Je séparai du corps de l'animal plusieurs morceaux des muscles qui obéissent à la volonté, et je vis avec étonnement que, trois heures après la mort, ils se contractoient fortement chaque fois que je les soumettois à l'action galvanique. Ces mouvemens convulsifs ne se ralentirent qu'au bout de quatre heures.

Il suit de là que les marmottes tuées pendant qu'elles sont en léthargie, présentent, relativement à l'irritabilité, à peu près les mêmes phénomènes qu'on remarque dans plusieurs animaux à sang froid.

Pour savoir ensuite si les phénomènes d'irritabilité étoient les mêmes dans l'état de ville et dans celui de léthargie, le 25 de Juin, j'ai fait périr, précisément de la même manière, une seconde marmotte qui étoit éveillée depuis deux mois, et qui faisoit de frequentes courses dans le jardin. Mon thermomètre marquoit ce jour-là 18 degrés: l'ayant introduit dans le ventre de la marmotte au moment où je venois de la décapiter, il s'éleva à 29 degrés.

Ayant mis le cœur à découvert, comme je l'avois fait dans mon expérience du mois de Mars, je comptai d'abord vingt-sept ou vingt-huit pulsations par minute. Ce nombre n'étoit plus que de douze au bout d'un quart d'heure, et de huit, au bout de demi-heure: dans les dix minutes suivantes, il n'y eut plus que quatre pulsations très-foibles par minute, et elles cessèrent totalement dans les dix derniéres minutes, c'est-à-dire cinquante minutes après la mort de l'animal; tandis que le cœur de la marmotte tuée dans l'état de léthargie, donnoit encore quatre légères pulsations par minute, trois heures aprés que la tête avoit éte séparée du corps. Cette grande différence prouve que le principe de l'irritabilité s'accumule pendant la léthargie conservatrice.

Les chairs musculaires me semblirent plus pâles que celles de la marmotte en léthargie: elles etoient d'abord très sensibles à l'action galvanique; mais ses signes d'irritabilité s'affoiblirent et disparurent bien plus rapidement. En effet les chairs musculaires de cette marmotte étoient peu sensibles au bout de deux heures, tandis que dans la marmotte tuée en hiver elles se contractoient fortement au bout de trois heures, et que l'irritabilité ne s'affoiblit notablement que quatre heures aprè la mort.

Les chairs des muscles intercostaux et abdominaux conservèrent leur sensibilité au stimulus électrique quelques minutes de plus que celles des membres; d'où l'on peut conclure que le principe de l'irritabilité se conserve d'avantage dans certaines parties du même animal. Mais ce qui est prouvé jusqu'à l'évidence c'est que ce principe a bien plus de ténacité dans les chairs de l'animal tué pendant l'état de léthargie, que dans celle de l'animal tué pendant l'état de veille."

Dr. Hall remarks on this curious, though from what we know of amphibia and reptiles, natural fact, that its due value can only be determined by observing the dependence of the functions of life on that law of the inverse condition of the respiration and of the irritability, of which so much has already been said. In the hibernating animal the respiration is nearly suspended; had not the irritability become proportionately augmented, the actions of life must have ceased!

8. The *motility* of the muscular fibre is unimpaired, Dr. H. assures us, in hibernation. If the hedgehog, he says, in a state of the most perfect lethargy, uncomplicated with torpor, be touched, its respiration is resumed, and it coils itself up more forcibly than before. The dormouse, in similar circumstances, unfolds itself; and the bat moves variously. Not the slightest stiffness is observed. The hedgehog, when roused, walks about, and does not stagger, as has been asserted. The bat speedily takes to the wing, and flies about with great activity, although exhaustion and death may subsequently result from the experiment. The phenomena are similar to those of awaking from natural sleep. Impaired motility, stiffness, lameness, &c. belong to torpor, and not to true hibernation.

3. *Of Reviviscence.*—Hibernation, observes Dr. Hall, induces a state of irritability of the left side of the heart, which, with high respiration and an arterialized blood, would be incompatible with life. Respiration suddenly restored, and permanently excited, is, therefore, as destructive as its privation in other circumstances.

> " All those bats which were sent to me from distant parts of the country died. The continued excitement from the motion of the coach keeping them in a state of respiration, the animal perished. One bat had, on its arrival, been roused so as to fly about. Being left quiet, it relapsed into a state of hibernation. The excitement being again repeated the next day, it again flew about the room; on the succeeding day it was found dead.
>
> It is in accordance with this law, that we observe hibernating animals adopting various measures to secure themselves from frequent sources of disturbance and excitement. They choose sheltered situations, as caverns, burrows, &c. secure from the rapid changes and the inclemencies of the weather and season. Many form themselves nests; others congregate together. The hedgehog and the dormouse roll themselves up into a ball. The common bat suspends itself by the claws of its hinder feet, with its head dependent, generally in clusters; the horseshoe bat *(ferrum equinum)* spreads its wings so as to embrace and protect its fellows.
>
> All these circumstances are obviously designed to prevent disturbed hibernation.
>
> In the depths of caverns, and other situations sheltered from changes of temperature in the atmosphere, the calls of hunger are probably the principal cause of reviviscence in the spring. The other causes of reviviscence are the return of warmth and external excitements: it is interesting to observe and trace the gradual return of respiration in the former case, and of the temperature of the animal in the latter.
>
> If the hibernating hedgehog be touched even very gently, it draws a deep breath, and then continues to breathe for a short time. If this excitement be repeated, the animal is permanently roused, and its temperature raised. If the temperature of the atmosphere be augmented, the respiration is gradually excited, and the animal is gradually restored to its state of activity.
>
> If a hibernating animal be excited in a very cold atmosphere, its temperature rises variously and then falls. A bat was perfectly lethargic in a temperature of 36°. A fine thermometer, with a cylindrical bulb, was introduced into its stomach; it rose to 39°. One hour afterwards, the animal not being further disturbed, the respiration was rapid, and the temperature in the stomach 95°. Shortly afterwards the temperature was 90°. The minute circulation was pretty good, and pulsatory in the arteries, the heart beating from twenty-eight to thirty-six times in the minute.

In another bat, in an atmosphere of the temperature of 36°, the thermometer in the stomach rose to 39°. The animal being continually excited, the temperature rose to 65°, but speedily fell to 60°.

The animal excited and revived in this manner is in a state of exhaustion and inanition. It is incapable of maintaining its temperature if exposed to cold, and will die unless it repass into a state of hibernation." 774.

It may, perhaps, admit of question whether it is the high irritability of the heart which kills because of its incompatibility with excited respiration and an arterialized blood. It is not proved that such irritability remains high when the respiration becomes high, nor is it clear why it should kill, if it did so. If a hibernating animal is stimulated to activity in a low temperature, it is reasonable to suppose that it would suffer, because it is unnaturally excited to exertions disproportionate to the hibernating state which such temperature tends to produce. If, on the other hand, the animal is stimulated in a higher temperature, it is not satisfactorily shewn that the excitation proves fatal, independently of the want of food, or an excessive quantum of excitation itself. We offer these not as objections but inquiries, and shall be glad to receive information from our able author. It is only fair to add a question of his own. The fact, he says, of the fatal influence of excited respiration during the augmented irritability of hibernation, contrasted with the similar fatal effect of suspended respiration, during the diminished irritability of the state of activity, will illustrate many of the causes, kinds, and phenomena of death. Do not these resolve themselves, in fact, into irritability insufficiently or excessively excited?

4. *Of Torpor from Cold.*—As Dr. Hall observes, it is important to distinguish that kind of torpor which may be produced by cold in any animal, from true hibernation, which is a property peculiar to a few species. The former is attended by a benumbed state of the sentient nerves, and a stiffened condition of the muscles; it is the direct and immediate effect of cold, and even in the hibernating animal is of an injurious and fatal tendency; in the latter, the sensibility and motility are unimpaired, the phenomena are produced through the medium of sleep; and the effect and object are the preservation of life.

True hibernation is induced by temperatures only moderately low. All hibernating animals avoid exposure to extreme cold. They seek some secure retreat, make themselves nests or burrows, or congregate in clusters, and, if the season prove unusually severe, or if their retreat be not well chosen and they be exposed in consequence to excessive cold, many become benumbed, stiffened, and die.

Dr. Hall continues :—

"To induce true hibernation, it is quite necessary to avoid extreme cold; otherwise we produce the benumbed and stiffened condition to which the term torpor or torpidity may be applied. I have even observed that methods which secure moderation in temperature, lead to hibernation: hedgehogs, supplied with hay or straw, and dormice, supplied with cotton-wool, make themselves nests and become lethargic; when others, to which these materials are denied, and which are consequently more exposed to the cold, remain in a state of activity. In these cases, warmth or moderated cold actually concur to produce hibernation.

When we read of insensibility, of a stiffened state of the muscles, and of a cessation of the circulation, as obtaining in hibernation, we may be certain that a state of torpor has been mistaken for that condition. The actually hibernating animal exposed to continued severe cold is, as M. Saissy correctly observes, first roused from this state of ease and preservation into a painful activity, and then plunged into a fatal torpor." 775.

He adds:—

"In conclusion, one of the most general effects of sleep is to impair the respiration, and with that function the evolution of animal temperature. The impaired state of the respiration induces a less arterial condition of the blood, which then becomes unfit for stimulating the heart; accumulation of the blood takes place in the pulmonary veins and left auricle; a sense of oppression is induced, and the animal is either roused to draw a deep sigh or awakes altogether.

Such are the phenomena in animals in which the heart has not the faculty of taking on an augmented state of irritability, with this lessened degree of stimulus. But in those animals which do possess this faculty, a property which constitutes the power of hibernation, the heart continues the circulation of the blood, more slowly indeed, but not less perfectly, although its arterial character be diminished, and its stimulant property impaired. No repletion of the pulmonary veins and of the left auricle, no sense of oppression is induced, and the animal is not roused; the respiration continues low, the temperature falls, and the animal can bear, for a short period, the abstraction of atmospheric air.

All the phenomena of hibernation originate, then, in the susceptibility of augmented irritability. The state of sleep, which may be viewed as the first stage of hibernation, induces an impaired degree of respiration. This would soon be attended with pain, if the irritability of the heart were not at the same time augmented, so as to carry on the circulation of a less arterial blood, and the animal would draw a deep sigh—would augment its respiration or awake. Occasional sighs are, indeed, observed in the sleep of all animals, except the hibernating. In these, the circulation goes on uninterruptedly, with a diminished respiration, by the means of an augmented irritability. There is no stagnation of the blood at the heart; consequently, no uneasiness; and the animal becomes more and more lethargic, as the circulation of a venous blood is more complete. This lethargy is eventually interrupted by circumstances which break ordinary sleep, as external stimuli or the calls of appetite." 776.

Our author enumerates the hibernating animals. The most unequivocal are the bat, the hedgehog, the marmot, the hamster, the dormouse. It has been said that the bear and beaver belong to the number, but this is extremely doubtful. It has been said also that the swallow belongs to the hibernating class, but this is incorrect. The cold-blooded animals, the Chelonian, the Saurian, the Ophidian, and the Batrachian tribes, all, however, indubitably pass the winter in a state of apathy and lethargy. Some of the fishes also become lethargic during the cold season. The same remark applies to some of the molluscous and insect tribes.

We cannot but think Dr. Hall's paper highly interesting. It displays his aptitude for clear and discriminating generalizations, and for resolving into simple formulæ many and apparently contradictory facts.

II.—ON ANIMAL HEAT.

THE fifteenth and sixteenth Parts of the Cyclopædia contain an article on this subject by Dr. W. F. Edwards. Some observations on it will also be found in Müller's Physiology, now in process of translation by Baly; and we propose to abstract from both, but more particularly from the first, a consistent account of what is at present known on this most important physiological problem. A correct acquaintance with the laws of animal heat will tend materially to improve our practice, and by opening to us philosophical and extended views of the economy, will especially enable us to appreciate more satisfactorily those influences of climate and of season, which affect so vitally the human race. We would direct the attention of our readers to the inquiry, which has a very direct and essential bearing on the maintenance of health and the treatment of disease.

Dr. Edwards commences by remarking, that it was the natural but erroneous supposition, before the application of the thermometer, that the temperature of our bodies is continually varying. The thermometer corrected that mistake but bred another—that our temperature does not vary at all. Still, he says, the measures of temperature given by different observers did not perfectly accord, though each presented his conclusions as the temperature of the race. It was but reasonable to imagine that these discrepancies arose not from any want of accuracy in observation, but from diversities inherent in the subjects observed. This is now known to be the case. But though proofs of this truth have been greatly multiplied, the whole subject has never been presented in a connected and systematic manner.

Since it is proved that the temperature of the human body varies, we can only obtain an approximation to its actual amount by taking the mean of all the good observations that have ever been made, being particularly careful to include the extremes; for a mean gives but a very imperfect idea of a term that ought to represent a variable number, if the limits are not at the same time assigned and taken into the account. The best observations of this kind, provided they be sufficiently numerous, will be those that have been made by the same individual, inasmuch as there is great likelihood that he will always have made use of the same procedure and of the same instruments, by which the results become more readily comparable one with another.

Temperature of the Human Body.—Dr. Edwards employs the measures of temperature given by Dr. John Davy. They amount to one hundred and fourteen in number, and were made on individuals of both sexes and of different ages in three quarters of the world, in Europe, Asia and Africa, in different latitudes, under various temperatures, and among individuals of different races.

The mean age of the subjects of Dr. Davy's observations was twenty-seven years. The mean temperature of the air was 23°, 3 c. (74° F.*) between the limits of 15°, 5 (60° F.) and 27°, 8 (82° F.). In these circumstances the mean temperature of the body, which was always taken in the mouth, was 37°, 7 (100° F.) between the extremes 35°, 8 (96°, 5 F.) and 38°, 9 (102° F.). The greatest difference in one hundred and fourteen observations, therefore scarcely exceeds three degrees. The temperature of the human body thus obtained might be considered as exact if the conditions of age and external atmospheric temperature approached pretty closely to their respective means. This, in fact, was the case as regards the first term, but not as concerns the second; for some of the observations were made under very intense degrees of heat, such as 27°, 8 (82° F.), but none at the opposite extreme, or at a temperature which could be reputed cold, a temperature of 15° (59° F.) being already sufficiently agreeable. So that if the temperature or the air influences that of the body, the mean which has been stated as the temperature of the species would be too high.

---

* "[The valuations according to Fahrenheit's scale the editor desires may be regarded as mere though close approximations to the indications according to the centigrade scale.]—Ed."

It is, of course, requisite, in order to enlarge our notions and exclude sources of fallacy, to examine the temperature of other animals, as well as that of man.

Temperature of the Mammalia.—The observations here (we quote and shall quote Dr. Edwards) were made on thirty-one different species taken from among the principal divisions of this class, and under a mean temperature of the external air equal to 25° (77° F.) between the limits of 15° (59° F.) and 30° (86° F.).

The mean temperature of the body of the Mammalia was 38°, 4 (101°, 10 F.), the maximum being 40°, 5 (105° F.), the minimum 37°, 2 (99° F.), The extent of variation consequently presented by the Mammalia, 3°, 3 of the centigrade scale (6° F.), is nearly equal to that exhibited by man. But there is this difference between the two scales, that the extremes and the mean in the case of man are inferior to the corresponding terms in the case of the Mammalia.

Temperature of Birds.—The observations here were made on fifteen species in different orders. The mean temperature of the air was 26°, 1 (79° F.), between the extremes 15° (59° F.) and 31°, 5 (88°, 75 F.). The temperature of the subjects of the experiments offered a mean of 42°, 1 (170°, 86 F.), the superior limit being 43°, 9 (111° F.), the inferior 37°, 2 (99° F.) The temperature of birds, therefore, presents a scale much more extensive than that of man and the Mammalia, amounting to as many as 6°, 7 degrees centigrade (12° F.). It also stands above both of the others in the point of its mean, which is higher by 3°, 7 (6° F. nearly) in its upper limit, and 5° centigrade (about 9° F.) higher in its lower limit. The lower limit, in fact, corresponds very nearly with the mean term of the heat of the Mammalia as exhibited in the preceding scale. Much cannot, however, be said on the minimum of heat in these instances, no observation having been taken at a temperature lower than 59° F.

Temperature of Reptiles.—From nine observations made on members of the four orders of Reptiles, Dr. Davy found, the external air having a mean temperature of 26°, 5 (79°, 75 F.) between the extremes 32° and 16° (89°, 5 and 60°, 75 F.), that the temperature of Reptiles was not higher than 28° (82°, 5 F.).

Temperature of Fishes.—If from Reptiles we pass to Fishes, corresponding and even more remarkable differences are perceived. Dr. Davy, indeed, gives the temperature of no more than five species, but they belonged to very different orders. The mean external temperature being 22°, 3 (72° F.), that of fishes was found to be but 23°, 2 (74° F.) which is very little more than one degree centigrade higher. This difference becomes even more striking, if possible, as we descend in the scale of animals.

Temperature of Insects.—From eight observations on insects of very dissimilar species, the mean temperature of the air being 24° (75°, 5 F.), that of the insects was 24°, 2 (75°, 75 F.)

Temperature of the Crustacea.—Two species of Crustaceans, the crayfish and crab, presented a still more interesting phenomenon. The mean temperature of the air was 24°, 4 (76° F.) at the time of experimenting, that of the Crustacea 24°, 1, or somewhat lower than the ambient medium. This we do not presume to present as the rule, but we would say that the temperature of the Crustacea is nearly equal to that of the medium in which they are plunged.

Temperature of the Mollusca.—In observing the temperature of a single Mollusc, the common oyster, the temperature of the sea being 27°, 8 (82° F.) that of the animal was 27°, 8 also.

It is obvious that, in regard to temperature, animals, from reptiles inclusively downwards, may be arranged in a single group and termed *cold-blooded;* while mammalia and birds will constitute a higher class, the *warm-blooded.*

To characterise the temperature of the latter great division, the mean of the temperatures of the respective classes which compose it must be taken first. From the experiments of Dr. Davy the mean temperature of mammalia appears to be.............................. 38°, 4 (101° F.)
that of birds .... 42°, 1 (108° F.)

Mean of both classes............ 40°, 25 (104°, 5 F.)

We may therefore say that the mean temperature of warm-blooded animals, including man, surrounded by a moderate external temperature is in round numbers 40° (104° F.) between the limits of 36° and 44° (97° and 111°, 5 F.), by which we have a scale of difference amounting to 8° (about 14° F.).

The other class, that, namely, including the *cold-blooded animals*, having no peculiar temperature proper to them, may be characterized in the following manner:—their temperature differs little or not at all from that of the surrounding media in which they live, when this is at a degree which may be called moderate.

General Conditions of Organization relatively to the Production of Heat.—So marked a difference existing in the temperature of the two divisions of animals, it is a natural presumption that some grand differences exist also in their structure. And such is found to be the fact. It is a natural presumption too, that if such differences of structure and of temperature coincide, they have the mutual relations of cause and of effect. To determine whether this presumption is correct it is necessary to pursue the train of investigation which is found to succeed to in the great divisions of natural science—to exclude certain phenomena from the mass to be examined and watch the effects of such exclusion—to insulate, in fact, particular phenomena and observe their actions and their habitudes when uncombined and unimpeded with those of others. Nature helps us by the diversity of the forms of animal life which she disports in, and we must help ourselves where she does not go quite far enough, by special experiments of our own.

Let us apply then this philosophical method to the case before us. We have said that the warm and the cold-blooded animals, differing as they do, differ also in structure ;—what *are* those latter differences?

1. Mammalia and birds have the double circulation, which the cold-blooded have not.

2. The character which distinguishes the respiratory organ of warm-blooded animals from that of cold, is this,—that either in itself or its appendices (the air-sacs of birds) it presents a much larger extent of surface in relation with the air.

3. Warm-blooded animals are farther distinguished from the cold-blooded by important modifications of the digestive canal. 1. The first portion of the apparatus from the mouth to the stomach is much more complex in them ; for instance, it presents either a much more perfectly developed dental system, fitted to divide the food, or a sac, as among birds, fitted to macerate the aliment, and cause it to undergo a kind of preparatory digestion before it is passed to the stomach. 2. The stomach is more distinct ; either the entrance to and exit from this pouch are better marked, being often provided with a valve, as in the mammalia, or its structure and form are more special, as we observe it among birds. 3. The intestinal canal is much longer in the warm than in the cold-blooded tribes.

4. The nervous system presents diversities still more important and well-marked. The most striking character exists in the proportion of the principal trunk of this system, and especially of its encephalic extremity, which is much larger in the warm than in the cold-blooded animals.

These organic conditions, which are mutually dependent, may be reduced to the expression of these two general ones :—1st, the formation and distribution of the arterial blood, the particularly exciting and nutritive blood of the body ; 2nd, the most powerful influence of the nervous system.

As these are almost the sole points of any consequence that distinguish the structure of warm and of cold-blooded animals, it follows, that, within the circle which they form, the causes of difference of temperature must lie.

> "Conditions of organization and of functions may be entitled the physiological causes of the production of animal heat. If we succeed in determining these we ought to rest satisfied. If, indeed, to this knowledge we could add that of the immediate cause of this phenomenon among animals, or what is the physical cause, it would be a great gain for science. This, accordingly, was the object of the labours of the majority of physiologists who have given their attention to the subject of animal heat. But they could not possibly succeed in their researches, for the simple reason that natural philosophers themselves have not yet discovered how heat is produced in the inorganic world ; although indeed they have presumed that they were acquainted with it." 651.

The immediate cause of animal heat is a problem not likely to be solved. But we may connect it with some particular function or functions, and having done so much we shall do well. We must proceed in the manner we have already mentioned, varying the conditions under which heat is produced, either by our own experiments, or by availing ourselves of the innumerable experiments ready made for us by nature.

Mammalia and birds have been shewn to have a higher temperature than reptiles and fishes, and the conditions which distinguish the two classes have been stated generally. The next thing is to compare the orders with each other, and observe the distinctive characters of each. Compare then mammalia and birds.

The lungs of birds, writes Dr. Edwards, although smaller, are more loaded with blood than those of the Mammalia, and are in communication with extensive air-cells, spreading all through the body and even penetrating into the cavities of the bones, so that the air may be said to penetrate the body generally, and to be in contact with the ramifications of the aorta as well as with those of the pulmonary artery; the blood of these animals is therefore in the most extensive relation imaginable with the air of the atmosphere. Again, if the nature of the blood of Birds be considered, independently of this extensive relation with the air, the organic condition here will not appear less favourable to them. The globules of this fluid, indeed, are a little larger and less spherical than in Mammalia, which is a disadvantage; but the proportion they bear to the fluid part is so favourable to birds that this circumstance must give them immensely the advantage in reference to the character which engages us. With regard to the nervous system, if the encephalic extremity is developed in a minor degree in birds, their circulating and respiratory systems act with greater quickness. Lastly, and as an effect of the whole of these conditions, the consumption of air is much greater among birds than among Mammalia.

The respiratory system then, is more developed in birds than in mammalia —the nervous less. The mean temperature of the mammalia is 38°, 4 (101° F.), that of birds 42° 1 (108° F.).

Compare next reptiles with fishes.

The digestive apparatus is more complete among reptiles than among fishes; 1st, in the dental apparatus when it exists; 2d, in the more distinct stomach; 3rd, in the greater length of the intestines.

The blood of reptiles is superior to that of fishes both as regards the nature of the globules and their relative proportion, their size being smaller and their numbers greater, than among fishes.

If the whole of the blood in the reptile is not transmitted through the organ of respiration, whilst in the fish it is, a larger quantity of this fluid is brought into contact with the air in the same space of time in consequence of the greater extent of surface of the organ in the reptile, and then the reptile has the farther immense advantage of a pulmonary or aerial respiration, whilst that of the fish is branchial or aquatic. To conclude, the nervous system of reptiles is much more developed in the cerebro-spinal axis, and especially in the encephalic extremity, than in fishes.

Perhaps the most striking difference between reptiles and fishes is the fact, that the first respire in air, the latter in water. The development of heat is greater in reptiles than in fishes.

To pursue the inquiry, is to compare the cold-blooded vertebrata with the invertebrata.

"A glance suffices to shew the vast inferiority of the invertebrata in this as in every other respect. In the first place their blood is so little of the same nature as that which has been recognised most favourable to the production of heat, that it wants the characters whether of arterial or of venous blood. The blood of the invertebrata, with the exception of a very small group (the worms with red blood), is colourless. In the structure and number of its globules it is also greatly inferior. The globules, indeed, may be smaller, but then they are of a much more simple structure, and consequently lower in the scale, in other words, more imperfect. In the relation to the fluid part of the blood too, they are in much smaller proportion than among the vertebrata. An analogous character is manifest in the tissues generally, the proportion of water in them being incomparably larger in the invertebrate than in the vertebrate series of animals. Finally, there is an immeasurable inferiority in the nervous systems of the invertebrate compared with even the lowest of the vertebrate series of animals." 653.

The invertebrata have a much smaller capability of producing caloric than the cold-blooded vertebrata.

"The comparison might be carried out in regard to insects and the mollusca, which present some appreciable differences. If attention were confined solely to the structure of the greater number of the organs of nutrition, which are much more largely developed in molluscs, it might be inferred that they had a higher caloric power than insects; but when we take into the account, 1st, the final result of the nutritive functions, the quality of the tissues, which in the mollusc are much more loaded with watery fluid, by which they acquire a greater degree of softness and flaccidity, (whence the class has its name,) whilst in the insect they are, on the contrary, as remarkably dry and firm;—2d, when the most general mode of respiration is compared in the two divisions, it being in the insect aerial, in the mollusc aquatic; 3d and lastly, when we glance on the one hand and on the other at the state of the nervous system, and observe how much less perfectly this is developed in most of the molluscs than in the insect, it is impossible not to perceive that according to the principles influencing the production of heat, the mollusca must be inferior in this respect to insects. This is indeed the result of observations of all kinds, however imperfect or limited these may have been." 654.

It is impossible, for very intelligible reasons, to carry the investigation and comparison lower down in the scale. The phenomena connected with heat in the lower grades of the animal creation become inappreciable; and this even in virtue of the same principle that has been announced; for the tissues are found to become more and more watery as we descend in the scale, till at length the solid constituent is almost inappreciable. Of course the circulating fluid must be watery in a still greater ratio; it contains but few globules; and then the nervous system falls off in a still greater proportion; it becomes more and more imperfect, till at length no trace of it is to be discovered.

The general temperature of animals has been examined. The next point is to ascertain the

Temperature of different Parts of the Body.—Our own feelings tell us that different parts of the body have different temperatures. A law of decrease of temperature in the ratio of the distance of parts from the heart had even been deduced from observations of that kind. But when exact measurements came to be taken this law was soon found to be at fault. Dr. Davy, in taking the temperature of the different parts of the body of a lamb, found that of the right ventricle of the heart 40°, 5 (105° F.), that of the left ventricle 41°, 1 (106° F.) The left ventricle was therefore higher in temperature than the right, to the extent of a degree of the scale of Fahrenheit's thermometer. The temperature of the rectum corresponded with that of the right ventricle.

In my enquiries, says Dr. Edwards, along with M. Gentil into the relations in point of temperature of certain external parts, we found in a strong man, perfectly at rest in mind and body, in the month of July, the external air being at 21°, 25 c. (71° F.), the temperature of the mouth 38°, 75 (102° F.); that of the rectum corresponded. The hands presented the next highest degree, marking nearly 37°, 5 (99°, 5 F.) What is remarkable is that the axillæ and groins, which corresponded with one another, were very sensibly lower in temperature than the hands; they did not raise the thermometer higher than 36°, 96 c. (99° F.). The cheeks marked 35°, 93 (96°, 5 F.), the temperature being ascertained by enveloping the bulb of the thermometer in the skin of these parts. The feet were a little lower, 35° 62 (about 96° F.); their temperature being determined by placing the thermometer between the two, so that the bulb was surrounded on every side. The temperature of the feet was, therefore, notably lower than that of the hands, differing to the extent of 1°, 88 of the centigrade scale (above 3° of Fahrenheit's thermometer). Placed on the skin between the thorax and abdomen the thermometer was at its minimum, not rising higher there than 35° (95° F.); but here a part of the bulb being in contact with the air, there must have been considerable cooling.

Internal parts seem to have some such relations of temperature with each other as the following:—

1st. The warmest part of the body, according to John Hunter, is in the abdomen, close to the diaphragm. 2d. The next part in point of temperature is the left ventricle of the heart. 3d. The right ventricle of the heart is the next in succession. The rectum and the mouth shut are of the same temperature. The greatest difference consequently between the temperature of these internal parts does not amount to more than 1° centigrade, or at the utmost 2° Fahrenheit.

Supposing the relations in temperature of the internal parts to be pretty constant in the normal state, the temperature of the right ventricle of the heart and of the rectum may be determined by taking the temperature of the closed mouth; that of the left ventricle will be found by adding 0,44 c., or 1° F. to the degree indicated.

Relations in point of temperature between external parts.—We have only data for instituting comparisons in regard to the hand, the axilla, the groin, and the feet, among the external parts of the body. In a moderate summer-heat the hand appears to be the part which is most susceptible of showing a high, the feet the parts most susceptible for exhibiting a low temperature. The axilla and groin generally exhibit nearly the same degree of temperature; and the amount in which they differ in this particular from the mouth may be stated at about 1°, 75.

But the thermometer is, for obvious reasons, a coarse and an imperfect instrument for ascertaining the temperature of the deeper parts. These considerations, says our author, led to the adoption of thermo-electrical means by Messrs. Becquerel and Breschet. The processes they employed in procuring indications of temperature were the following. The only means we have of penetrating into the interior of organs without injury is to make use of a needle similar to that employed in acupuncture. Now it is easy to arrange this needle so as to obtain thermo-electric indications, which proclaim immediately and with the greatest precision the temperature of the part or medium with which the point happens to be in contact. It is enough to compose this needle of two others in metal, two of the extremities of which are soldered together in a few points only, whilst the other two are placed in communication with one of the extremities of the wire of an excellent thermo-electric multiplier. The slightest changes of temperature at the points of junction give origin to an electrical current, which, in reacting on the magnetic needle, causes it to deviate by a certain number of degrees, which consequently become indices of the temperature of the point of the needle, and therefore of the medium in which it is placed, The multiplier ought to be so sensitive as to show a deviation of one degree of the magnetic needle for each one-tenth of a degree of temperature as measured by the centigrade scale, an amount of temperature made sensible by the union of the two ends of the wire which forms its circuit with an iron wire soldered by its ends.

Dr. Edwards relates a series of experiments too circumstantial for our purpose. The main fact is that muscular contraction developes heat in the muscle and its vicinity, chiefly, no doubt, from the afflux of blood to them. Dr. Edwards remarks:—

> "In the rise of temperature observed along with muscular contraction, we have in the first place only considered the action of the blood; but neither contraction of the muscles nor the afflux of a larger quantity of blood could take place without the nervous influence; for it is the will which determines the muscular contraction, and the will only acts through the medium of the nerves which are distributed to the muscles. From this consideration it follows equally as from general relations previously exposed, that whatever lessens the nervous influence will likewise tend to reduce the temperature. Here we are, then, reverting to the two general conditions which we had already found to be the most influential in calorification, namely, the arterial blood and the nervous system." 658.

Influence of External Temperature.—The source of heat being in animals in the centre, it is reasonable to suppose that the surface would be influenced by the lower temperature of the surrounding medium, and be rather cooler in consequence. And such is found to be the case. If the external temperature should vary, it is also natural to suppose that the temperature of the surface of the animal would vary too. This is found to be the case also, but not to any considerable amount. Dr. Davy made the following series of observations:—

Temperature of the air.	*Mean temperature of five men.*
15°, 5 (60° F.)	36°, 85 (98° F.)
25°, 5 (78° F.)	37°, 16 (99° F.)
26°, 4 (79° F.)	37°, 32 (99° 5, F.)
26°, 7 (80° F.)	37°, 58 (100° F.)
27°, 8 (82° F.)	37°, 70 (100° 5, F.)

The changes in the temperature of the body in these cases must be admitted to be slight, for whilst the temperature of the air varied to the extent of 12°, 3 c., the changes in the mean temperature of the body did not exceed 0°, 9. The results, however, are confirmed by the observations of Dr. Reynaud, surgeon of the corvette La Chevrette, in a voyage of discovery in the Asiatic seas, undertaken in the year 1827.

Mean temperature of the body deduced from observations four times repeated upon each of eight men, under the torrid zone, the external temperature varying from 26° to 30° c. (79°, 86° F.)	37°, 58 (100° F.)
Mean temperature of the same eight men observed three times in the temperate zone, the external temperature varying from 12° to 17° (53° to 62° F.)	37°, 11 (99° F.)

It is to be regretted that these experiments have not been carried into low temperatures. But in the voyage of Capt. Parry it was observed that the temperature of the mammalia was very high. With the external thermometer at — 29°, 4 (— 21°, F.), the temperature of the white hare was + 38°, 3 (101° F.) With the thermometer at — 32°, 8 (27° F.), the temperature of a wolf was + 40°, 5 (105° F.): the temperature of the Arctic fox, under nearly the same circumstances, namely, when the thermometer was standing at — 35° (— 31° F.), was as high as + 41° 5 (107° F.). Similar observations have since been made in the same high latitudes upon man.

Dr. Edwards has studied and experimented on the influence of seasons on the temperature of warm-blooded animals. The observations made on sparrows exhibited the greatest differences. In the month of February the mean temperature of these birds was found to be 40°, 8 (105° F.); in April 42° (108° F.), in July 43°, 77 (111° F.) The temperature from this time began to decline, and followed, in the same ratio in which it had increased, the sinking temperature of the year.

It is shewn to be the fact, what our sensations would indeed make us believe to be so, that water both cools and heats far more than air. And, from immersions of parts of the body only in water, the following deductions may be drawn :—1st, that partial chills, or the exposure of individual parts to low temperatures, may be and are felt very extensively even when the cold is not very severe ; 2nd, that the chilling of a single part, such as the hand or the foot, may cause a loss of temperature in all the other parts of the body, even far beyond what could have been presumed as likely or possible. These facts give a key to the right understanding of the immense influence which partial chills are capable of exercising on the state of the general health.

The Effects of partial Heating are not altogether unimportant. The hand being immersed in water heated to the temperature of 34° R. (109° F.), rose one degree of the same scale, and the temperature of other remote parts not immediately exposed to the influence of heat were found to have risen in a corresponding degree. Whence follows this axiom,—*that we cannot either raise or lower the temperature of any one part of the body without all the other parts of the frame being affected, and suffering a corresponding rise or fall in temperature, more or less according to circumstances.*

Effects of a very high or a very low external Temperature on the Temperature *of the Body.*—On a summer's day, the temperature of the air being 37°, 77 c. (100° F.), Franklin observed that the temperature of his own body was nearly 35°, 55 c. (96° F.) This fact proves, of itself, that man has the power of keeping his temperature inferior to that of the air. In numerous experiments made in England by Dr. Fordyce and his friends, and subsequently by Dr. Dobson, in which these experimenters exposed themselves to very high temperatures, which on some occasions exceeded that of boiling water, the heat of the body was never observed to rise more than one, two, three, or four degrees of Fahrenheit's scale at the utmost. The highest temperature of the body noticed by Dr. Dobson is 102°.

"The highest temperatures of the human body exposed to excessive heats ever observed, were remarked by Messrs. Delaroche and Berger in their own persons. The temperature of M. Delaroche being 56° 56 c. (98° F.) increased 5° of the centigrade scale, by remaining exposed in a chamber the temperature of which was 80° c, (176° F.). M. Berger, whose temperature was the same as that of M. Delaroche, gained 4° c. by remaining for sixteen minutes in the hot chamber at 87° c. (188°, 5 F.). These experiments are liable to this objection; that the temperature was taken in the mouth in an atmosphere of much higher temperature, which might have some influence in raising the thermometer. To arrive at conclusions against which no kind of objection could be raised, Messrs. Delaroche and Berger exposed themselves in succession in a box, out of which they could pass their head; the hot air or vapour of the interior being prevented from escaping by means of a circular pad of soft napkins placed between the edge of the outlet and the neck. The temperature of the mouth, in this way, if it was increased, must be increased in consequence of a rise of temperature in the parts of the body included in the bath. After a stay of seventeen minutes in the bath, heated from 37°, 5 to 48°, 75° c. (99° to 120° F.), the temperature of M. Delaroche's mouth rose 3°, 12 c. Under similar circumstances, the temperature of the bath being from 40° to 41°, 25 c. (104° to 106° F.), the temperature of M. Berger's mouth increased 1°, 7 c. in the course of fifteen minutes.

It is pretty obvious that experiments upon the human subject cannot be pushed far enough to ascertain the highest amount of temperature that can be acquired under the influence of exposure to air of excessively high temperature. To judge of this analogically, recourse must be had to warm-blooded animals of the two classes, mammalia and birds. Messrs. Delaroche and Berger consequently exposed different species of mammalia and birds to dry hot air of different temperatures, from 50° to 93°, 75 c. (122° to 201° F.), leaving them immersed till they died. The whole of the animals that were made subjects of experiment, in spite of diversity of class and species, and of the varieties of temperature to which they were exposed, had gained an increase of temperature nearly equal at the moment of their death. The limits of the variations being between the terms 6°, 25 and 7°, 18 c., the amount of difference did not exceed 0°, 93 c. which is a very trifling quantity. It may therefore be inferred, that man and the warm-blooded animals cannot, under the influence of exposure to dry air of excessively high temperature, have the heat of their body raised during life to a greater extent than from 7° to 8° c. The temperature of the body being increased to this extent becomes fatal. It is in fact only attained at the moment of dissolution; perhaps death has virtually taken place before it is attained." 661.

The cold-blooded animals exhibit during the heats of Summer a temperature inferior to that of the air. Thus the temperature of the atmosphere being 32° c, (90° F.), that of a tortoise was only 29°, 4 (85° F.). And many such experiments might be reported.

It is scarcely necessary to observe that evaporation is a cooling process to animals, and that it acts in a very efficient manner. We pass to the :—

Relations of the Bulk of the Body to Animal Heat.—"If the temperature of the larger animals be compared with that of the smaller, it will be found that the former do not mark so high a degree as the latter. In the elephant and horse for instance, no higher a temperature than 37°, 5 c. (100° F,) has been observed, whilst in the rat and squirrel temperatures of 38°, 8, and of 39°, 4 (102° and 103° F.) have been noted. To prove that the difference is less owing to the order or species than to the simple size, we shall contrast several animals belonging to the same order, selecting the ruminants. The temperature of the air being the same, namely, 26° c. (79° F.), the temperature of the ox was found to be 38°, 9 (102° F.), whilst that of a castrated he-goat was 39° 5 (103° F.), and that of the she-goat and sheep 40° (104° F.)." 662.

Smallness of size must, per se, tend to lower temperature from the comparatively great amount of surface exposed to the inferior temperature of the air. But, on the other hand, the circulatory and respiratory motions are more rapid in animals of small than of greater bulk, and that is a circumstance favourable to the production of heat.

Relations of Age to Animal Heat:—It is certainly of consequence to ascertain these. Dr. Edwards has made some experiments which throw much light upon them.

"If," he says, "the temperature of new-born puppies lying beside their mother be taken, it will be found from one to three degrees inferior to that of the parent. The same thing obtains in regard to the young of the rat, the the rabbit, the guinea-pig, &c. and is probably universal among the mammalia. Among birds the same circumstance presents itself in a still more marked degree. If they be taken out of the nest in the first week or even fortnight of their existence, the difference of temperature extends to from 2° to 5° c. between the young and the parents. The fact has been ascertained in regard to the sparrow, the swallow, the martin, the sparrow-hawk, the magpie, the thrush, the starling, &c. &c., and is probably, as among mammalia, universal. Whence we may conclude that the phenomenon is general as regards warm-blooded animals. We might have taken it for granted that man was comprised within the category, but it is just as well to have the assurance that he forms no exception to the law, that he has no peculiar privilege in this respect. To have a precise term of comparison, the temperature of twenty adults was taken at the same time, the thermometer being applied in the axilla. The temperature of these twenty persons varied between 35°, 5 and 37° c. (96° and 99° F.) ; the mean term was therefore 36°, 12 (97° F.). The temperature of ten infants varying from a few hours to two days in age, ascertained in the same manner, varied between 34° and 35° 5 c. (93°, 5 and 96° F.). The mean was therefore 34°, 75 c. (about 94°, 5 F.). There was consequently a difference of nearly two degrees between the temperature of the adult and of the newly-born babes. Man is therefore proved to be subjected to the same law here as animals having warm blood in general, the young of which, so far as they have been examined, and we may presume universally, are inferior in temperature to their parents." 663.

But if the manner of experimenting is altered, results of an extraordinary character come out. To develope these the temperature of the newly-born being must not be taken only when it is in contact with its mother. If, after having ascertained the temperature of a puppy in this position, it be removed from the mother and kept isolated, the temperature will be found to fall rapidly; and this phenomenon takes place not only when the air is cold, but when it is mild. The phenomenon does not commence after a term; it is apparent from the moment the separation takes place, and is very sensible after the lapse of a few minutes. The following is the rate of cooling of a puppy twenty-four hours old, the external temperature being 13°, c. (about 55° 5 F.), taken at intervals of ten minutes; the series of course represents the successive losses of temperature in the course of the small intervals of time indicated:—temperature in commencing the observations 36°, 87 c.; the declensions in temperature at intervals of ten minutes successively, 0°, 63, 1°, 12, 1°, 38, 1°, 25, 1°, 29, 0°, 87, 1°, 63, 0°, 25, 1°, 0; in thirty-five minutes the temperature declined farther 1°, 25; in thirty-five minutes more it fell 3°, 12; in thirty minutes more 2°, 50; in twenty-five minutes more 1°, 25; in thirty minutes more 1°, 25; so that in the course of four hours in all, the temperature declined by the amount of 18°, 12 of the centigrade scale (about 33° F.)! Not only had the temperature of the animal sunk by so large a quantity in so short a period of time, the external temperature being pleasant, but it actually could maintain its temperature at no higher a grade than 6°, 75 c. (14°, 5 F.) above that of the atmosphere. Experiments of the same kind performed on three other puppies of the same litter presented results in all respects analogous. The cooling may even go much further by protracting the period during which the young animals are kept apart from their parent. For instance, four puppies, twenty-four hours old and of much smaller size than the subjects of the former experiments, after having sunk 16° c. in four hours and thirty minutes, lost six degrees more of temperature in the succeeding eight hours and thirty minutes, the air remaining all the while at 13° c. (55°, 5 F.) They consequently lost twenty-two degrees centigrade in thirteen hours; and, what is very remarkable, their final temperature was but one degree above that of the surrounding air. Kittens and rabbits of the same age exhibited similar phenomena, if possible in a more striking degree. Some kittens were observed to cool twenty degrees centigrade within the short interval of three hours and a half, and some young rabbits suffered the same depression of temperature in two hours and ten minutes, the air being at the time at 14° c. (57°, 5 F.).

This does not, however, hold with all animals, and Dr. Edwards gives us a formula for those with whom it does and does not obtain.

Those species of mammalia which in the earlier period of their existence do not maintain their temperature, that of the external atmosphere being mild or warm, but cool down to the standard of the cold-blooded animals, are born with their eyes closed; whilst those which maintain their temperature, that of the external atmosphere being mild, are born with their eyes open; and this, whether they can walk about like the guinea-pig, the kid, &c. or cannot do so, as is the case with the human infant in particular.

Dr. Edwards observes, that, in puppies, at the period of their birth, the ductus arteriosus continues pervious and of large size. The consequence of this structure is that a free communication is established between the arterial and venous blood, by which they are mingled in large proportion one with another. And here we have precisely the physiological character derived from the nature or quality of the blood which distinguishes the cold-blooded from the warm-blooded vertebrata in the adult age. The same circumstance obtains with the other species of mammalia which lose their temperature and fall to the standard of the cold-blooded tribes. But in those (take as an instance the guinea-pig) which from the first day of its extra-uterine existence maintains its temperature nearly on a level with that of its parent when the air is temperate, the ductus arteriosus is closed immediately after birth.

This relation, continues our author, is preserved in the young mammalia in every modification in a peculiarly interesting manner. The young mammalia which are born with the eyes closed, at first present the phenomena of refrigeration nearly in the same degree during the two or three first days of their life; though they afterwards exhibit differences of great extent in this respect. Thus a young rabbit two days old had cooled down to 14° from 23° c, (to 58° from 74° F.) in the course of three hours fifty minutes, the air being at the time temperate; another three days old took seven hours twenty-five minutes to cool through a range of 18° c., when the process of refrigeration ceased. A third, of the age of five days only, lost 5° c. in temperature in the course of one hour fifty-five minutes, and maintained itself afterwards at this temperature. During the following days, smaller and smaller depressions of temperature were observed, till the eleventh day after birth, when the power of sustaining the temperature a little below that of the adult female parent seemed to be acquired permanently. When the modifications of internal structure are examined during this interval of time, we find that the ductus arteriosus has been contracting in the same proportion as the faculty of maintaining the temperature has been increasing, and that it is entirely closed at the epoch when the temperature becomes stationary, the external temperature being understood all the while as mild or pleasant. At the same period precisely too, the eyes are unsealed.

Among the young of birds, there are equally marked differences in the calorific function. Some lose heat rapidly when separated from the mother; others maintain their temperature to within a little of that of their species. Sparrows, for instance, which have been hatched but a short while, present a temperature from 4° to 5° c. lower than that of their parents when still contained in the nest, where they contribute to each other's warmth. But taken out of the nest and isolated, although the temperature be that of summer, they begin to cool with extreme rapidity. A young sparrow a few days old lost as many as 12° c. in the short space of one hour seven minutes, the air at the time marking 22° c. (72° F.). The same thing happens with swallows, sparrow-hawks, &c. But the law is not universal; it does not hold in reference to all the genera. There are several that have the power of sustaining their temperature in spring and summer at a degree but little below that of their parents. Birds, therefore, form two groups as regards the production of temperature, just as the mammalia do. The first cool down to the standard of cold-blooded animals; the second preserve their warmth when the air is mild or agreeable as it is in the spring and summer. It is interesting to inquire, if there is any external zoological character which marks the power or the incapacity to preserve heat. It is found in the presence or absence of feathers. Dr. Edwards asserts that though the absence of feathers marks and may contribute to the diminished faculty of maintaining a high temperature, it is not its main cause. The internal modification of organization which corresponds with this external sign is not so palpable as the patency of the ductus arteriosus in the young mammalia. But, in the first place, the nervous system is much less energetic in the unfeathered than in the feathered class; and, in the second place, the digestive powers are in an equal degree inferior in strength; for they are not only unable to take food of themselves from muscular incapacity, but also from the lack of the requisite instinct, and, farther, from their digestive organs not being in a condition to elaborate food to any extent. It is on this last account that the parents supply their young with food which has suffered maceration in their own crops, or has even in their stomachs undergone a kind of incipient or partial solution; or otherwise the parents have the instinct to select such articles as are easiest of digestion, and best fitted for the weakly state of the digestive organs of their progeny. We have already observed that a defect in the powers of digestion implies a corresponding imperfection in the blood.

The same principle applies to the first period in the existence of all animals. All have a temperature lower than that of their parents—all display inferiority of energy in their nervous system—all have less vigour of the digestive function and nutrition—all, in short, have the great functions of the body in a state of weakness, and the function of calorification, the result, in a great degree, of all, is weak too.

It follows that, if this be true, the prematurely born should have still less power of maintaining heat than those that are born at the full time. And so it would seem to be. Dr. Edwards made some observations on a case that presented itself to him. A child born at the seventh month, perfectly healthy, and which had come into the world with so little difficulty that the accoucheur could not be fetched in time to receive it, had been well clothed near a good fire when the temperature was taken at the axilla. This was found no higher than 32° c. (under 90° F.). Now we have seen that the mean of the temperature of ten children born at the full time was 34°, 75 c. (94°, 5 F.); the temperature in no case descending lower than 34° (94° F.), and ranging between this and 35°, 5 c. (96° F.)

Dr. Edwards makes some further remarks, the gist of which is that:—There are four states of the temperature from birth up to adolescence inclusive. In the first period the temperature is at the minimum; in the second, it attains the adult degree: this might be entitled the period of the mean temperature; in the third, the temperature exceeds that of the adult; finally, in the fourth, it sinks to the mean, that is, the temperature of the adult.

Differences of Constitution in relation to the Production of Heat among Animals.—It is obvious that animals may in a certain temperature display nearly the same temperature, or have a particular ratio of heat to each other, and yet when the surrounding temperature is altered, they may no longer exhibit the same, or maintain the ratio they formerly exhibited. And such is found to be the case; indeed the preceding observations are themselves examples of the fact. But the subject is so eminently practical that it deserves to be investigated, at all events in the case of the young and the old. Dr. Edwards remarks:—

A young guinea-pig a month old, the temperature of whose body was high and steady, the temperature of the external air being mild, was exposed along with an adult to the same degree of diminished temperature—

the air was at 0° c. (32° F.). In the course of an hour the young creature had lost 9° c. in temperature, whilst the adult had only lost 2°, 5 c. This experiment, repeated several times with the same species of animal, always gave the same result. Young and adult birds of the same species, treated in a similar manner, showed the same diversity in their powers of resisting the effects of external cold, from which we may infer that the law is quite general. Several young magpies, for instance, whose temperature was stationary in a mild spring atmosphere, were placed with an adult in air cooled to + 4° c. After the lapse of twenty minutes, one of the young ones was found to have lost 14° of temperature. The others, examined at intervals, none of which exceeded one hour and ten minutes in length, had cooled from 14° to 16° c. The adult bird, on the contrary, similarly circumstanced, did not suffer a greater depression of temperature than 3° c. The loss of heat sustained by the young birds was so great as to be incompatible with life, if continued; that endured by the old one was trifling in amount and not inconsistent with health.

The difference between the young and the old was too great to be explained by mere difference of size, or of quantum of plumage, &c. Dr. Edwards goes on to say :—

A difference of constitution must go for a great deal; there are inherent diversities of constitution, favourable or the reverse, to the production of heat. The truth of this conclusion appears much more clearly if we continue to subject young birds to the same kind of experiment at successive epochs not so close to one another. The rapid progress they make in the power of evolving heat is, indeed, a very remarkable fact. A few days later, and they lose temperature in a much less considerable degree when exposed to cold under the same circumstances, although there was little or no apparent difference in the external appearance of the birds. And this is a new and convincing proof that the inequality in the disposition to lose heat obvious at different periods of life under exposure to a low external temperature, is principally owing to inherent inequality in the faculty of producing caloric.

These observations and the facts they establish are of the highest moment. They bear on the treatment of the young of our own race. What can be more preposterous than the scanty clothing which modern fashion allows to children? Whilst their mothers are muffled to the eyes in furs and to the toes in flannels, their unhappy brats are paraded abroad with their legs and bottoms exposed to every blast, and their necks left open for the very purpose of inviting scrofula. Yet Nature gives the mother a greater power of resisting cold, than she grants to the child, so barbarously frozen for the sake of vanity and mode.

Influence of Seasons in the production of Animal Heat.—Dr. Edwards remarks that the opinion, that the evaporation from the surface of the body in summer compensates the augmented temperature without, and that the cessation of that evaporation in winter makes up the deficiency of heat externally, must be taken with some reservation. For, he says, in examining those species of cold-blooded animals which from their structure are liable to lose more by evaporation than any other animal, we see that no such compensation takes place. Frogs, for example, the skin of which is so soft and permeable, and whose bodies besides are so succulent that they must be presumed in the most favourable circumstances to sustain loss by evaporation, ought to preserve the same temperature in winter and in summer if the low temperature in winter were compensated by the excess of evaporation in proportion as the heat of the season augments. But we know that the temperature of these creatures follows to a very great extent, that of the atmosphere, between 0° and 25° c. (32° and 77° F.), differing at no time from it by more than a degree or two. The phenomenon here is simple, by reason of the slight evolution of caloric by the frog, and leaves no doubt upon the mind. We must, therefore, have recourse to other conditions, in order to explain the slight difference that is observed in the summer and winter temperature of man and other warm-blooded animals.

He concludes that the cause is to be found in internal conditions of the body. In winter there is a *more active production* with a *greater loss*; in summer a *less production* with a *smaller loss* of heat. In this way is there compensation, and a perfect equilibrium maintained at all seasons. To render this relation more evident, it may be expressed in another manner; as, for example, in summer the body receives more heat from without, and produces less; in winter it receives less and produces more. It follows, as an obvious deduction that, if the faculty of producing heat is less in summer the temperature of the body will not be maintained to the same point in the two seasons under sudden exposure to the same degree of cold. Dr. Edwards put this conclusion to the test of experiment.

"The apparatus employed consisted of earthen vessels plunged amidst a quantity of melting ice. Air thus cooled soon reaches the point of extreme humidity. The air being at zero c. (32° F.), the animal is introduced, placed upon a stage of gauze to prevent its coming in contact with the moist and rapidly conducting surface of the vessel. A cover, also piled over with ice, is then placed over the apparatus, but so arranged as still to permit the ready renovation of the air contained in the interior. Still farther to secure the purity of the included air, a solution of potash, which of course absorbed the carbonic acid produced with avidity, occupied the bottom of the vessel. In winter, in the month of February, the experiment was made at the same time, upon five adult sparrows, which were all included in the apparatus. At the end of an hour they were found one with another to have lost no more than 0°, 4 c., or less than half a degree; some of them having suffered no depression of temperature whatsoever, others having lost as much as, but none more than, 1° c. The temperature of the whole then remained stationary to the end of the experiment, which was continued for three hours. In the month of July the same experiment was performed upon four full-grown or adult sparrows. The temperature of these birds at the end of an hour had undergone a depression, the mean term of which was 3°, 62, and the extremes 6°, 5 and 2° c. At the end of the third hour the mean term of the refrigeration suffered was 6°, the extremes being 12° and 3°, 5 c. It ought to have been stated that in the experiment in the winter month, the birds had been for some time kept in a warm room, so that the sudden transition was the same in both instances, in the winter as well as the summer experiment. The diversity in the constitution of these birds, consequently, with reference to the powers of producing heat, was an effect of the difference of the seasons. Each month the temperature of which differs in any degree from that of the month before or after it, has an obvious tendency to modify the temperament or constitution in the manner which has been indicated. In summer we may presume, nay we may be certain, that the differences obtain in degree according to the mean intensity of the heat proper to each. *This is* even to be proved by direct experiment. The month of August, as commonly happens, was not so hot as the month of July, and six sparrows treated in the same manner as those that were the subject of the July experiment already detailed, were not found to suffer refrigeration to the same extent. After the lapse of an hour the mean temperature of the six had sunk 1°, 62, and after three hours 4°, 87 c., from which it is obvious that with the successive declensions of the external temperature the faculty of engendering heat increases." 670.

Dr. Edwards compares the summer constitution with that of youth—the winter one with that of adult age—and the constitution of the natives of hot climates with that of the natives of temperate climates in summer. We pass over his observations on hybernation, having devoted so large a space to an article on the same subject by Dr. Marshall Hall.

Of the System on which the External Temperature acts primarily and principally.—Our sensations inform us that this is the nervous.

Influence of Temperature on the Vitality of Cold-blooded Animals.—If several cold-blooded animals, for example batrachia, have the lungs and heart excised, so that only the nervous system remains, and if, in this condition, they are plunged in water deprived of air, they will live in it different spaces of time according to the degree of its temperature, the extremes compatible with their existence being zero and 40 c. It is towards the inferior limit, zero, that they live the longest. Towards the upper limit they die almost immediately. Temperature, consequently presents in the scale of variations just mentioned very remarkable relations with the vitality of these animals. Towards the lower limit or that of melting ice, it is obviously most favourable to life; towards the upper limit, it is most inimical to life, extinguishing it almost immediately. Here it is impossible to mistake the system upon which the variety of temperature exerts its first and principal effects—the nervous system.

If respiration only be annihilated by plunging these creatures under water deprived of air, the temperature of which is caused to vary as above, they will be found to present the same phenomena according to the degree of the heat or cold, but in a more striking manner. Temperature in this case has the same kind of influence, but the effects are more manifest, from the circulation of the venous blood prolonging life at every degree short of the one at the upper limit of the scale, at which life is extinguished quite as suddenly as in the former instance.

If these experiments are made in Autumn the animals will be found to survive twice as long as they did in Summer, and if the experiments are repeated in Winter, the tenacity of life will be found to have increased in a very high degree.

Influence of Temperature on the Vitality of Warm-blooded Animals.—Dr. Edwards remarks :—

"Warm-blooded animals having in general a high temperature at all seasons of the year, they must be compared in this respect with cold-blooded animals in the height of summer. On the one hand, heat with certain limits tends to increase sensibility and motility; warm-blooded animals, therefore, with a few exceptions, which always present a high temperature, constantly exhibit also, with a few exceptions, a high degree of sensibility and motility. The same thing can only be said of the cold-blooded tribes during the continuance of the warm weather, on the other hand, again, high temperature tends to lessen the vitality proper to the nervous system, or the faculty of living without the agency of the ordinary stimuli. This is also the reason why, if respiration be interrupted among warm-blooded animals at all times, and among cold-blooded animals during the warmer seasons of the year, they all perish alike speedily, or nearly so. The difference in the time that elapses before life is extinct still depends on, or is in relation with, the difference of temperature. For in the hotter season of the year, cold-blooded animals never attain the temperature of the warm-blooded tribes, even in the most burning climates of the globe. Their nervous system will consequently have a higher degree of vitality in the sense already indicated; that is to say, they will not perish so promptly in summer under deprivation of air; but if they be immersed in water at the mean temperature of warm-blooded animals generally, which is about 40° c. (104° F.), they will die as suddenly—(at least this is the case with those of small size upon which the experiment has been made)—as the warm-blooded vertebrata when deprived of the contact of air." 674.

The effect of cold (short of a destructive quantum of it) on the vertebrata is to produce reaction. This may be only capillary, in the part, or it may extend to increased frequency of the respiratory and circulatory movements. Exercise quickens these movements materially and enables the animal to resist cold more effectually. By habit, as is well known, this power of reaction may be augmented, and low temperature borne with facility.

Our space is so limited that we must pass over a few pages, and content ourselves with the following quotation. It goes to confirm the preceding detail.

"Legallois, by the employment of various means for impeding respiration, or limiting the consumption of air, found that *refrigeration of animals is in the compound ratio of the difficulty experienced in breathing and of the quantity of oxygen consumed; so that when, in two experiments, the difficulty of breathing is the same, the greatest extent of cooling occurs in that in which the smallest quantity of oxygen is vitiated, and the contrary.* Now, the end of the process of respiration being to change the venous into arterial blood, this conclusion of Legallois confirms directly the one of the two principal conditions—THE STATE OF THE BLOOD, which we have laid down as influencing the production of heat among animals, and to the knowledge of which we had attained by induction.

The results of the direct experiments which we have still to quote also come powerfully in aid of our inferences concerning the other principal condition, which we have assumed from induction, influencing the production of animal heat: this is THE STATE OR ACTION OF THE NERVOUS SYSTEM.

Sir B. Brodie demonstrated by a series of the most ingeniously conceived and happily executed experiments, that when animals were decapitated and respiration was kept up by artificial means, so that the blood circulated as usual, and the process of change from the venous to the arterial state, went on uninterruptedly, the ordinary quantity of carbonic acid being eliminated, all the while, that, nevertheless, the temperature fell rapidly, even more rapidly than when no artificial respiration was maintained.

Dr. Chossat completed these researches upon the nervous system in its relations with the production of heat, by demonstrating in a series of experiments the following very important fact, viz. *that the depression of animal heat is constantly in relation with lesions of the nervous system, whether these lesions implicate the cerebro-spinal system, or the system of the great sympathetic.*" 683.

Here we must pause. We have been unable to turn to Müller. But as there are one or two questions connected with the production of animal heat untouched we may on a future occasion recur very briefly to them.

POVERTY. ITS EVILS AND THEIR REMEDIES. PAROCHIAL MEDICAL RELIEF.

I. Forty-Fourth, Forty-Fifth, and Forty-Sixth Reports from Select Committee on the Poor Law Amendment Act; with the Minutes of Evidence and Appendixes. (Medical Inquiry.) Ordered by the House of Commons to be printed, 20th and 22d June, 1831. London, fol. pp. 147.

II. Extracts from the Information received by His Majesty's Commissioners as to the Administration of the Poor Law. Published by Authority. London, 1833, 8vo. pp. 432.

III. Report from His Majesty's Commissioners for Inquiring into the Administration and Practical Operation of the Poor Laws. Published by Authority. London, 1834, 8vo. pp. 362.

IV. Four Annual Reports of the Poor Law Commissioners for England and Wales. London, 1835, 6, 7, 8.

V. Plans for Regulating Medico-Parochial Attendance: also, Observations on "Self-Supporting" Dispensaries and Union Infirmaries. By *John Charleton Yeatman.* 4th Edition, enlarged. London, 1837, 12mo. pp. 70.

VI. Medical Relief for the Labouring Classes, on the Principle of Mutual Insurance. By *H. W. Rumsey,* one of the Surgeons of the Chesham Self-supporting Dispensary, and Fellow of the Royal Medical and Chirurgical Society. London, 1837, 12mo. pp. 69.

VII. Mr. Serjeant Talfourd's "Letter" to W. H. Rumsey, Esq. Secretary to the Poor Law Committee of the Provincial Medical and Surgical Association.

The absence of any legislative enactment, providing satisfactory attendance upon the poor in their hour of sickness, and sufficient remuneration for their medical attendants, has hitherto left the case of both to the tender mercies of parochial authorities, whose additional duty of protecting the pockets of the rate-payers in their respective parishes, they have only too generally considered to be the sole public object for which they were appointed to office.

The attempt, under the Poor Law Amendment Act, at indirectly coercing the necessitous poor to provide medical relief for themselves—and the medical profession to afford such relief on the parish account, at the bare cost of the necessary drugs, was an impudent and barefaced mockery of the sick poor, a wicked and unrighteous fraud upon a whole profession.

But the rights of the poor had their advocates, and those advocates were too wary not to perceive the monstrous inhumanity which must accrue from such an attempt, and not to take note of every individual instance of such inhumanity when it occurred. And it could hardly have been expected that an entire profession would remain dormant while their interests were sacrificed throughout the whole country, for no higher purpose than to enable well-salaried Commissioners to get up, from year to year, a fair and prosperous looking balance-sheet; and to send forth, from year to year, voluminous reports of the admirable working of that machinery whereby the sick poor have been neglected or maltreated, and their attendants rewarded in the inverse ratio of their labours. It was too much to be hoped for, even by those Commissioners, that the medical profession should be defrauded, or that the sick poor should be wronged, without remonstrance or murmur; and that while those same Commissioners pocketed their thousands of pounds per annum—the means and appliances of maintaining handsome establishments—and quaffed their Champagne and Burgundy, the poor, as at Bridgewater, should be quietly regaled on barley-water and water-gruel!

But, it is nevertheless true, that not only was such a hope indulged in—it was even thought to have been realized, and, while the fraud upon the medical profession was prospering, and the injury to the sick poor was proceeding without any serious interruption to its consummation—their very material diminution in the land—the Gentlemen of Somerset House were drawing up a congratulatory report, and felicitating themselves on their success.

Appointed by, and subject to, the Commissioners, there is a more numerous body of Assistant-Commissioners; whose business it has been to reduce the respective Boards of Guardians to the moral dimensions, and to confine the amount of medical and other relief awarded the poor in their several Unions, to the pecuniary limitations, prescribed by their own immediate superiors, and to bolster up the worst features of that system which had called themselves into official existence.

The Assistants transmit their district reports of the state of things—the Commissioners avail themselves of their testimony to assure the public that all is well—and Mr. Chadwick prepares an annual report to that effect, garnished with the laudatory garlands wove for his masters' brow, by his masters' deputies.

One of the Assistant-Commissioners, writing from Bucks, observes, "the introduction of any new system, calculated to remove corruption, is attended with many difficulties; and seldom, till after the lapse of some considerable time, can it be got even into operation." "I have, therefore, great reason," he continues, "to congratulate the Board that this measure, the one of all others that had corruption and personal interest to contend against, and where prejudices both of the higher and lower classes united to impede its progress, has not only got into operation, but has so far cleared its way, as in the short space of a few months to produce beneficial results sufficiently powerful to convince the doubtful, convert the hostile, and to unite them in endeavouring to carry its principles more extensively into effect." *First Annual Report of the Poor Law Commissioners, p.* 249.

What as regards medical remuneration, the "principles" were, of "*this measure, which of all others had corruption and personal interest to contend* *against;*" it would puzzle a Philadelphia lawyer to say, unless, indeed, they were injustice and cruelty.

That the medical profession were *corrupt* enough to wish to take care of their own pence, while the Commissioners were pocketing the country's pounds—and that the poor were sufficiently *self-interested* to shudder at the surrender of their own health and life into the hands of the lowest bidder, was no doubt monstrous and intolerable.

But this part of our narrative is too important to be lightly, or even hurriedly passed over; and we shall transfer from the " dim obscure " of their own report, to the clearer, brighter page of history, for a more open and public perusal, the following morçeau, in elucidation of our patriotic Poor Law Commissioners' " principles "—the principles of that measure, whose well-working, according to the aforesaid veritable witness, W. J. Gilbert, Esq. had convinced the doubtful and converted the hostile, and united them both, to carry it more extensively into effect.

A richer specimen of Loyolan logic, was never coined, or issued from the Vatican.

" § 25. Amongst the evils we found ourselves called upon to remedy, were a large class connected with the administration of medical relief. In our present Report, we deem it necessary only to advert to some of the chief evils of this class, and to the measures we have adopted with relation to them.

We found it a practice, in the great majority of instances, for a medical man to contract with the parish for the supply to the settled paupers of the parish, with medical attendance for a small fixed sum, on the expressed or implied condition that he should be allowed to make whatever charges he pleased for his attendance and treatment of non-parishioners, under suspended orders of removal, or an order of medical relief by the overseer. When the patient has recovered, he is sent home to a parish with a bill for medical attendance, including charges for medicine at the highest rates. Against these charges the distant parish to which the pauper belonged had no adequate protection. The pauper was exposed to the danger of being supplied with medicines considerably beyond what was required for his proper treatment. Instances have come to our knowledge where, in large populous parishes, the profits of attendance upon paupers under such circumstances have been upwards of £300 per annum. The inferior officers have been feed by the medical officer, to search out and give him information of the cases of this description. As a further evil of this system, we may mention that paupers with their families have been removed from their parishes at a great expense, when each head of a family would otherwise have preferred remaining and seeking employment in the parish where his sickness occurred. By countenancing these practices, parishes were in the habit of creating burdens for each other. As a check to this system, and to the general expense of medical relief, we have generally required that medical services should be retained by contract and open tender, including, as a condition, that the medical officers should attend at the same charge all patients on the order of the overseer, whether the patients were parishioners or non-parishioners.

In regulating the appointments of medical officers within the new unions, we have acted on the presumption, that by the words of the Act (that the medical officer shall be ' a person duly licensed to practise as a medical man,') it was intended to include equally physicians, surgeons, or apothecaries, duly licensed to practise as such. Applications have been made to us to prescribe, as the qualification of the medical officer of any Union, that he should be a member of the College of Surgeons as well as of the Apothecaries' Company; but as at present informed, we do not think that the public interest would be advanced by confining the qualification within narrower limits than those traced by the words of the Act, and which conform to the general practice. With respect to the general professional qualifications of the medical men who come within the words of the Act, we have relied on the diplomas of those who are charged by the legislature with the duty of examining the qualifications of the candidates for practice, being assured that the recent improvements in medical practice and education are such as in general to render the later diplomas certificates of a degree of competency, equivalent to much practice on the parts of those who have had an earlier education. Under these circumstances we have considered that the interests of the public and of the profession itself were the best served by keeping the situations of medical officers in the new Unions open to the competition of the whole body of medical practitioners.

Instead of attempting to fix the price of the services of the medical practitioners for the Union, we deemed it the most advantageous that each practitioner should fix the price of his own services, under competition. Amongst the inducements to accept these appointments, are, *the credit* of *the appointment* of medical officer to an Union by a Board of Guardians, the *wider fields* these appointments afford *for the display of care and skill, and for obtaining reputation* leading to more profitable practice; inducements differing in degree, but similar in kind to those upon which men of the most eminent skill find it to their interest to give their services to the chief medical institutions of the country. We may be sure that the medical practitioner will, in fixing upon his terms, do nothing which he considers will not on the whole be advantageous to himself; and next, that he will consider the interests and advantage of his own profession. We have found it necessary, as a security against undue charges even under competition, to adopt as a rule that the aggregate charges for medical relief within the new Unions, shall not exceed the aggregate of the former expenditure for medical relief in the separate parishes now included in the Unions. Instances have occurred where the local medical practitioners have combined to prevent a competition. The course taken in these instances for the protection of the rate payers, and to secure the best treatment to the paupers, has been to suspend our sanction to the appointments, and to cause advertisements to be made to throw open the offices to the competition of practitioners from a distance, or of the profession at large.

In some Unions, as in the Wycombe Union, it has been provided that the terms of the contract should be a remuneration, at a given sum per head, on the number who receive medical relief; but with the proviso, that the gross charge should not exceed a given amount. It is stated to us in evidence, that this mode of proceeding, though adopted reluctantly by the medical profession, has operated very beneficially. The surgeon of the Amersham Union, Mr. Thomas Brickwell states, in the course of an examination,

I approve of the system; but the amount in the present contract is inadequate; I think I shall lose a guinea a week by it. In some of the parishes it is at present only one third of what I have received in former years for the same time. But I approve of the system, for these reasons: it is a self-acting check upon the relieving officer in giving improper orders, or withholding proper orders; upon the applicant for medical relief, in making him feel that in receiving it he is a pauper, and causing the parish a specific charge for him; and upon the medical man, by causing an inquiry into each case, so that none can escape attention; and by that means also secures proper attendance to the patient. Indeed, the mode of contract forms a complete system of check and security in cases of pauper medical relief, the want of which was so much felt under the old system.

Has it tended to curtail the evil of sending all parties to the parish doctor for medical relief, which was so prevalent under the cases of contract in gross?—Yes, it has;—I have many cases now that I am attending as independent patients, who used always, before, to come to me as paupers. One case is that of a woman of Fenn; her son is a master bricklayer, with whom she resides, the cottage and garden their own. She has a daughter about 30, a sempstress, who gets a very good living. This woman was, with her daughter, always attended by the parish. On my telling this woman that the parish paid a specific sum for her, she refused to be attended, and now pays for herself. There are many cases which evidence this effect of the system.

Of course, the new independent patients pay you?—Yes, they do; they pay us at the time they have the medicine.

Now, although you do not receive so much from the parish contract, will not the amount by these new independent patients more than make up the difference? —No, I think not; but it will go towards it.

We anticipate that the introduction of a better system will be beneficial for the destitute sick, as well as beneficial to the labouring classes generally; and that it will be found conducive to all proper interests of the respectable portion of the medical profession.

It will, however, be observed, that the change in the system has not, in many instances, been so long in operation as to develope the whole of the effects which may be anticipated from it, in promoting voluntary and independent associations to provide for the casualties of sickness and mortality.

But even now the reports made to us of the very satisfactory effects of the operation of the rule are becoming daily apparent. We cite the following passage from a recent report made to us by our Assistant-Commissioner, Mr. Hall, as illustrative of the tenor of other incidental communications on the subject:—

The good effects of your arrangements as respects medical relief, are shewing themselves in the shape of medical clubs among the labourers. One of the surgeons of the Wallingford Union told me that several were in process of formation in his district; and I have heard that elsewhere the labouring class has evinced the same degree of foresight and providence; has given the same proof that, when thrown upon his own resources, and taught to rely upon his own exertions, the independent labourer can, and will adopt measures answering to the necessities of the case.

Mr. Gulson states in the recent report from Oxfordshire, 'medical clubs are starting up in all directions. The proceedings of the Board, as regards the medical department, have already been productive of the best results. Highly respectable medical men are undertaking to attend all cases for an annual subscription of 2s. for a single person; and for 4s. 4d. they engage to attend a whole family, however large, so that it does not include children above sixteen years of age. At Witney, Benson, and other places, the labourers are subscribing in considerable numbers to independent medical clubs.' Mr. Gilbert reports to us that in several parts of Buckinghamshire similar effects, resulting directly from the change of medical relief, have been developed in a striking manner."—*First Annual Report of Poor Law Commissioners*, pp. 51 to 55.

Let our readers attentively peruse the first paragraph of the preceding extract, in connexion with the following report from His Majesty's Commissioners for inquiring into the administration and practical operation of the poor, out of which report grew the Poor Law Amendment Act itself, and the Commission under it. The part of that report to which we entreat particular attention is headed:—

"OUT-DOOR RELIEF OF THE IMPOTENT."

"The out-door relief to the impotent (using that word as comprehending all except the able-bodied and their families) is subject to less abuse. The great source of poor-law mal-administration is, the desire of many of those who regulate the distribution of the parochial fund, to extract from it a profit to themselves. The out-door relief to the able-bodied, and all relief that is administered in the workhouse, afford ample opportunities for effecting this purpose; but no use can be made of the aged and sick, and there is little room for jobbing, if their pensions are paid in money. Accordingly we find, that even in places distinguished in general by the most wanton parochial profusion, the allowances to the aged and infirm are moderated.

The out-door relief of the sick is usually effected by a contract with a surgeon, which, however, in general, includes only those who are parishioners. When non-parishioners become chargeable from illness, an order for their removal is obtained, which is suspended until they can perform the journey; in the mean time they are attended by the local surgeon, but at the expence of the parish to which they belong. This has been complained of as a source of great peculation; the surgeon charging a far larger sum than he would have received for attending an independent labourer or a pauper, in the place of his settlement. On the whole, however, medical attendance seems, in general, to be adequately supplied, and economically, if we consider only the price and the amount of attendance." p. 43.

So then, according to a Royal Commission, including within it such men as the present Bishops of London and Chester, and the Right Hon. W. Sturges Bourne, and not even excluding from it the Poor Law Commissioner's Secretary Edwin Chadwick, Esq. medical attendance, under the old system, appears to have been adequately and economically supplied, if the price and the amount of attendance only, be considered. Whereas, the Poor Law Commissioners, eighteen months after, include "amongst the evils they found themselves called upon to remedy," "a large class connected with the administration of medical relief!"

But what are the evils which constitute this "large class." The Commissioners "deem it necessary only to advert to some of the chief" of those "evils;" that is, to *one* and *only one*, as "*some* of the *chief*" evils of this class, and that one is, the complaint already made to the Royal Commission of undue charges on the part of practitioners, for the medical attendance given to non-parishioners! Like the solitary testimony of Mr. Brickwell, one out of thirteen surgeons in the Amersham Union, it is brought ostentatiously forward, to justify an alteration for the worse, when no alteration at all was called for by the public, and none whatever recommended by the Commission of Inquiry.

Then come the "remedies" for "them," that is, in the correct and simple language of truth, for "it." And what a remedy! to reduce medical men to the necessity of putting their skill and humanity up to sale by tender and contract, as the butcher and baker their bread and meat! But, "*we may be sure that the medical practitioner will, in fixing upon his terms, do nothing which he considers will not be on the whole advantageous to himself; and next, that he will consider the interests and advantage of his own profession.*"

Indeed! but it is presently added "instances have occurred where the local medical practitioners have combined to prevent a competition," and what was the "remedy" then? for "we are sure," to borrow the Commissioners' words, they would only do what they considered to be at once advantageous to themselves and their profession. Why, the office was thrown open by advertisement "to the competition of practitioners from a distance, or of the profession at large" and this, of course, altogether "for the protection of the rate-payers," and,—to secure the best treatment to the paupers!" It was not, in the most remote degree, for the purpose of overawing the local medical practitioners, by the prospect of losing part of their private practice, into doing any thing which they were agreed would be disadvantageous to themselves and injurious to the interests of their common profession.

But what were the effects of the "better system," which it was anticipated would be alike "beneficial for the destitute sick" and "to the labouring classes generally," as well as "conducive to all *proper* interests of the *respectable* portion of the medical profession?" Those excellent results may be seen in the rise and progress of "medical clubs" among the labourers, and the spectacle of "highly respectable medical men, undertaking to attend all cases for an annual subscription of two shillings for a single person; and four shillings and four pence for a whole family, however large!"

That neither the profession, the poor, nor the public, were either "convinced" or "converted" by the Commissioners' or their Assistants' reports in praise of themselves and their proceedings, subsequent events clearly demonstrated. The parochial practitioner complained that he was hard worked and ill paid. The sick poor cried aloud for more and better help, and complained bitterly that they were either neglected, or treated unskilfully. The public at large, or that part of it which takes an interest in such matters, wondered that their pockets were as often visited, and as fully taxed, as before the introduction of the "better system," and they complained that they did not find their own condition one whit improved by the abridgment of the poor man's physic, or the reduction of the medical officer's salary.

If the following excerpt from a subsequent report does not convict the previous one of what the "Times" calls "enormous lying;" we are certain it will fail to "convert" any who were not previously converted from their hostility to the "better system" from which so much was anticipated, and from which so much that was beneficial did actually result, according to the Assistant Commissioners.

> "We think it is incumbent upon us again to allude to the arrangements respecting medical relief, which has so often been the subject of animadversion and complaint in communications addressed to your Lordship by different members of the medical profession.
>
> It has been so perseveringly maintained that the medical relief to the poor has been inadequately provided for, and that a course has been pursued by us, injurious to the medical profession, that we think it necessary to re-affirm the statement which we have made whenever we have had a fit opportunity for doing so; that it has been our wish and intention to provide adequately for that important branch of pauper relief; and that in so doing we have never sought to disturb or displace the medical practitioners in their respective districts. Whenever this has been done (and the introduction of other individuals from a distance has occurred in but very few instances) the guardians have been forced to adopt that course by the inadmissible demands which have been made upon them by the gentlemen who now complain of their practice having been interfered with.
>
> We wish indeed that it were possible for us, within the limits of this report, to exhibit to your Lordship a full and complete representation of all that has been done as to this branch of our duties; and we think we should be able clearly to demonstrate that the complaints of the medical profession have no foundation.
>
> No sooner, however, was any part of the country formed into Union, than the propriety of altering the arrangements established for the purposes of medical relief in the separate parishes, and of resorting to a new and more combined distribution, became apparent. The effecting of this object

caused some disturbance to the medical practitioners, extending the practice of some, whilst it curtailed that of others. The division into districts has given rise to much complaint. The districts are represented by the medical practitioners as being generally too large, and as otherwise inconvenient. These districts, however, have been deliberately formed by the respective Boards of Guardians, who, from their local knowledge, must be considered to be the most competent judges on the subject; and we have reason to believe that in almost every instance the best arrangement was adopted.

Another ground of complaint is, that the medical gentlemen have, by the Guardians of some Unions, been called upon to make known, by the way of tender, the amount of payment for which they would undertake to supply medical attendance and the requisite medicines in any district which the Guardians might be desirous of providing for. Although this mode of proceeding is not rendered imperative by any thing contained in our rules, there is no doubt that the Guardians have generally resorted to it, and have by us, through our Assistant-Commissioners, been advised to do so; but it was never supposed that such a course was derogatory to the character of the profession. We are ready to admit that the principle of competition, though it is strictly, and to the fullest extent, applicable to the supply of drugs and many other articles used by the medical practitioners, is yet capable of only a modified application when brought to bear upon the acquired skill and knowledge, and other personal qualifications, the possession of which must and ought so materially to influence the Guardians in the selection they shall make from amongst the medical candidates; and in all our operations this limitation of the principle of competition has been recognized and acted upon; the Guardians having never been required to accept the lowest tender, and having in fact, in very many instances, been induced to set it aside solely with reference to the considerations of character and personal qualifications, to which we have alluded."

This was by way of apology for the treatment of the poor and the profession. It failed of its effect, the murmur of discontent grew louder, and Parliament was forced, by the petitions that crowded its table, to an inquiry.

This was instituted—a select Committee of the House of Commons was appointed—they sat, they took evidence—they made a report; and "highly respectable medical men" were no longer to drive a disgraceful bargain with paupers to save themselves from the dire necessity of subscribing to a more disgraceful contract with Boards of Guardians. Instead of half-a-crown a case being deemed adequate and ample remuneration, 6s. 6d. was not considered too large a sum to recommend as an equivalent for medical relief to any and every individual pauper in time of sickness.

The "*better system*" with all the Commissioners' sanguine "anticipations," and all the Assistant Commissioners' florid statements of benefits *said* to be realized, received its quietus from the Report of the select Committee of the House of Commons. We proceed to examine the EVIDENCE OF THE MEDICAL WITNESSES, upon which that Report is founded.

The witnesses examined were Sir Astley Cooper, Bart. Drs. Kay, an Assistant Poor Law Commissioner, Marshall Hall, Elliotson, Thomson, and Webster, and Messrs. Rumsey, Ceely, Rowe, Farr, Evans, and Toogood.

1, SIR ASTLEY COOPER:—had known great evils arise from the districts being too extensive. One such district is nine miles long by four wide—a poor woman has her child taken suddenly ill with acute disease—she is obliged to go to the distance of nine miles to a medical man—he may not be at home—he may be in the opposite direction—it is a long time before his advice can be procured, and a still longer time before the medicine can be got. To remedy this double evil, he recommends the limitation of rural districts to a diameter of five miles, and the presence of a depôt for medicines in every parish.

Thinks the system of letting the medical offices "by tender," MOST HORRIBLE—that it is quite an absurdity for lay Guardians to attempt to form an opinion upon a medical case—that, it would certainly be satisfactory to the profession and useful to the poor, if there were some medical guardian appointed, who should be referred to in matters of that kind—and that 7s. per case would be about a fair remuneration for the medical attendant's labour, &c. in rural districts.

The Baronet's answers to two of Mr. Wakley's questions do him infinite credit, and the first of those answers we would have inscribed in letters of gold, and hung up in the Board Room of every Union throughout the kingdom.

"16048. Do you consider it of importance that the medical practitioner in attendance upon the poor should be a man of some standing and residence in the district, and that he should also be in attendance upon the rich?—*You ought to look out for the same man to attend upon the poor as you would be satisfied with in your own family*; MAKE THE CASE YOUR OWN AND YOU ARE SURE TO BE CORRECT."

"16049. You do not think it advisable to introduce strangers to practise among the poor if there are resident practitioners who are willing to take the offices? If a very clever man comes into that part of the country very highly recommended, I see no reason why you should exclude that medical man, even supposing there were resident practitioners there; but if a medical man comes into the district and says, 'I will attend for £50 where the resident practitioner has offered to attend for £100,' *there can be nothing more horrible, or more degrading to the profession, or more injurious to the poor.*"

Sir Astley also considers three things "absolutely essential," as qualifications for office as parochial medical attendants upon the poor. 1st. The having passed the ordeal of the Apothecaries' Hall. 2nd. The possession of the diploma of the Royal College of Surgeons. And 3rdly. The having undergone an examination before a midwifery board, (no such board being now, nor ever having been in existence in this country.)

2. DR. MARSHALL HALL;—considers that medical attendance upon the sick poor involves a severe moral and professional responsibility;—that "offers by tenders" are derogatory to the medical profession; that much practical experience is necessary for the performance of the duty; that it should only be entrusted to men of two years' standing in the profession, acquainted with the particular locality, in the habit of attending upon the rich as well as the poor, resident in the centre of a district, and that district from 12 to 16 square miles; that, in electing officers, fixing the remuneration and prescribing the duties to be performed, a professional authority should be available for reference; that the medical attendant upon the poor amidst an ordinary population of 10 or 12,000 would have sufficient work to

perform; that the poor, as a body, need, in acute diseases, even more attention than the rich; are more liable to contagious diseases; that it would be desirable to render the medical appointments more conducive to the advancement of science, more satisfactory to medical men, and more beneficial to the poor, than they are rendered at present; and that "*the remuneration should be such as no man should be ashamed of accepting, and such as no set of men should be ashamed of proposing.*"

We print this last opinion of the worthy Doctor in italics, for the especial benefit of all whom it may concern, including Poor-Law Commissioners and Assistant Poor-Law Commissioners, Peers of Parliament, and Members of the House of Commons, Boards of Guardians in particular, and rate-payers generally.

3. **DR. JOHN ELLIOTSON**:—thinks, the medical districts should not exceed 12 square miles, it being an act of justice to the poor that the medical districts should be as small as possible; that one reference should be medical with regard to all medical appointments throughout the kingdom; that the surgeons in rural districts ought not to have less than six shillings and six pence, or 7s. a case; that the system of "tender" is "most injurious and most improper in every respect," making medical men do in that particular what they condemn each other for doing in private practice, and being a temptation to men to attend to the poor far less than they otherwise would; that, no one ought to be allowed, however long he may have been in practice, to undertake the care of an extensive district without medical control.

The good sense and honesty of Dr. Elliotson are conspicuous in his answers to the questions 15869, 15870 and 15871; and we quote them entire:—

"15869. Would you recommend that a man should be of some standing in his profession, say two or three years, before he is permitted to take a situation the duties of which are of such a responsible character as those connected with the Poor Law Unions?—I doubt whether he would be more fit in 2 years, if he had not had a good opportunity of improving himself by practice, than at the beginning; because he would have so little private practice in the first two years, that he would not much improve himself by it; and at the same time he might have forgotten a good deal that he knew when he came from his examinations; a man must learn his profession by experience, as well as by education at the schools.

15870. If he had been in practice and had acquired additional experience in that way, would he not be more fitted to undertake the medical duties of a Union?—He would; but he would not perhaps be so able to devote himself to it as a young man who had no other patients.

15871. But still, he being of some standing, and resident in the neighbourhood, it is likely that he would be better acquainted with the circumstances of the poor, and that his own character would be better known to the inhabitants?—Certainly; and it would be more satisfactory to the poor than to see a person appointed whom they had never heard of before and who was perfectly a novice."
—*Minutes of Evidence, &c.* p. 118.

The further examination of this physician elicited a remarkable testimony to the efficiency of the medical attendance upon the sick poor in London, so far as it has fallen under his own observation. He considers them to have been very well attended generally, and in the Hanover Square district, where he resides himself, believes them to have been attended in the most admirable manner.

His examination closes with the following sentence upon the abominable tender system, the "better system" of the Poor Law Commissioners, from which *they anticipated*, and their Assistants *found* so much good to result:—"I have spoken against it all my life, and those who have known others accept of it have shaken their heads with disgust; and again, judging from human nature in general, it must be impossible, I think, for a medical man to do his duty when he has an inefficient remuneration; it must be injurious to the poor; and it is heart-breaking to a man in any profession to work for nothing." p. 119.

4. Dr. Robert Dundas Thomson.—This gentleman's testimony went principally to satisfy the House of the vast extent to which drugs are adulterated for the purpose of meeting the prices offered by different sets of purchasers; and the inference from the facts adduced by him is, that the temptation to supply the poor with adulterated and worthless drugs, will increase in the ratio of the deficiency in any such provision made for their supply.

5. Dr. George Webster's evidence is only noticeable for an instance of impudent dictation and tyrannical exercise of authority, on the part of the Camberwell Guardians; and of cool and cavalier insolence on the part of the Poor Law Commissioners, for which we have no room, and must refer our readers to the "Minutes" themselves, while we pass on to—

6. Dr. James Phillips Kay, an Assistant Poor Law Commissioner, whose "testimony" we at first thought of consigning "to the tomb of all the Capulets," but on reconsideration have resolved to give him the benefit of a little wider notoriety than he at present enjoys. He slips away like an eel from every attempt on the part of his examiners to elicit truths from him, whether of fact or opinion, the full scope and tendency of which he may not happen to perceive, or perceives to be fatal to himself and the cause of which he is the paid champion. One example of this *slipperiness* will suffice to exhibit that quality of his testimony:—he is asked—

"5170. If a Union had engaged a medical man for six months, and had great reason to be satisfied with his conduct, you would not wish them to change him?—My only object is not to encounter those feelings of rivalry on the part of the medical practitioners, which interfere with their kindly relations in society." 14.

This answer does not appear to have contented the Member for Finsbury, and he tries his hand at skinning the eel.

"5171. (Mr. Wakley.) Do you not find that, when a medical officer anxiously discharges his duty, he in a short time obtains the confidence of the paupers; and do you not think it would be an evil to remove such a man from them?—I think the qualities of medical men resident in the Union are well known to the inhabitants, and if there were any person whose attendance was objected to by the poor, he certainly ought not to be a person selected for the duties of the workhouse."

Having glided thus dexterously from between the fingers of Mr. Wakley, the Chairman appears to have given him over as a bad job, and allows him to escape with the questions unanswered, by calling upon him for another Report which very properly winds up his examination—a Report, viz. of Mortality in the Workhouses. And even that he mystifies by making four quarterly returns instead of one annual.

The Doctor's memory is at times singularly leaky:—

"5083. Will you state the highest and lowest population in the two counties? (of Norfolk and Suffolk)—In casting my eye over the Suffolk medical districts, I do not find that any rural medical district contains a population greater than 6,800, which occurs in only one instance; I find that one town district, Ipswich, containing a population of 6,900.

5084. What is the salary of the medical officer in that district?—I cannot state that.

5085. What is the cost per head in that district?—I cannot tell as respects the particular medical officers' district; I could give information of the salaries respecting an entire Union."—*Minutes of Evidence,* p. 4.

Some important admissions, however, are wrung from the Assistant Commissioner, the first of which is, "I am not prepared to justify the present arrangements, excepting as provisional, and I expect changes to be made in the arrangements!" And a second, that:—"The time is past, for the operations of the system by tender."

And some very valuable facts are elicited, which if taken due advantage of, may lead to a more equitable adjustment of the balance between medical labour and medical remuneration—and to a juster settlement of all the medical questions involved in that one great subject—Poverty, *its* evils, and *their* remedies. Before concluding this article we shall notice summarily one of those evils—sickness; with a view to bring forward a remedy—adequate medical relief—and shall then recur to Dr. Kay's evidence.

7. EDWARD EVANS, Esq.—This gentleman's testimony relates to his own locality alone, (St. George the Martyr, Southwark,) and makes out a clear case of over-work and under pay—we say a clear case, and might add, a *common* one. Where, under the system, can a case be discovered of pay and labour equalized? He attends one half of a parish, the population of which is 40,000, and receives £110 per annum. The cost of drugs for his paupers averages £50 a year. The average number of *persons* attended by him within that period amounts to 1,229; and of *cases,* 2,059. The average remuneration for each case is—hear it, humanity! believe it, charity! make merry over it, political economy! embroider it on your pockets, every rate-payer in the kingdom! rejoice and be glad, Commissioners and Assistant-Commissioners! elected and ex-officio Guardians;—15729. *What is the amount of remuneration in each case?*—A SHILLING AND A HALF-PENNY IN EACH CASE, ATTENDING FROM SEVEN TO TEN DAYS."

Mr. Evans is asked, "15740. Have you much private practice?—I have considerable. I have been 22 years in the same neighbourhood. 15740. Have you much time to spare for private practice? My time is a great deal occupied by my private practice, as well as the parish practice."

We think the Guardians have exercised a very wise discretion in dividing the medico-parochial labours of St. George the Martyr, between four instead of two medical men. No two can attend to a "very considerable" private practice, without awfully neglecting so very considerable a parish practice.

But, of course, neither Guardians nor Commissioners think of a more equitable adjustment of remuneration to labour among the four than between the two. Increase the labourers! Yes, they are too few to do the work. Increase the amount to be divided among them? No, they will still receive *one shilling and a half-penny per case,* for medicines and from 7 to 10 visits. What could they look for more—and what would become of the rate-payers' pockets, if you gave them more?

8. GEORGE ROBERT ROWE, Esq.—This gentleman's evidence, like Mr. Evans', also makes out a strong case of ignorance, incapacity, and meanness, on the part of the officials connected in the medical arrangements of the Epping district. Ignorance, when not wilful, is alike pardonable and pitiable; to be angry with incapacity were to quarrel with creation, for "all men are not wise;" but meanness is a low vice which deserves to be whipped out of men and things whenever and wherever it is detected.

The surgeons of that district made an estimate, and offered to attend the poor at the rate of 2s. a head. They were met with a refusal, and a scheme offered to them of 2s. 6d. per head, per annum, for a man; 1s. 6d. for a woman; and 6d. for a child. This, with one exception, was refused by the rest of the medical men.

"15606. Was that for each case they attended, or for each individual of the pauper population?—Each individual in the receipt of weekly relief; but the Guardians reserved to themselves the privilege of increasing that number. The best way to illustrate it would be to give the population of my own parish; the pauper population of my own parish amounts to 440, or something more than 400; and in the paupers' schedule they comprised 100, that is 100 were the only persons receiving weekly relief; therefore, if any of the other 300 became sick, they had reserved to themselves the privilege of putting the sick patients into the schedule upon the same terms.

15607. (Mr. Wakley.) At 2s. 6d., 1s. 6d. and 6d. a head?—Yes, so that in the event of a family of six children, and a man and his wife, which is frequently the case in our district, being attacked by sickness, the medical man was called upon to attend the poor family for 7s.

15608. For the whole year?—Yes. 15609. (Chairman.) Whom do you mean by paupers?—Those who are not capable of maintaining themselves when they are sick. 15610. Do you mean to describe a man as a pauper who is not in the receipt of parish relief?—I consider that the moment the man applies to the parochial officers for medical relief, the man becomes a pauper. 15611. No doubt if the man applies for relief of any description and receives it, he becomes a pauper; but were those 400 in the receipt of relief of any description?—Only 100 were in the receipt of medical relief, but the other 300 were entitled to call upon the medical man for assistance, because their necessities were of that nature, that they could not provide it themselves. 15612. How do you know that?—From my own connexion with them; they were always considered paupers by me, from my having attended them for so many years. 15613. Then the state of things is this; 100 persons were receiving parochial relief, and, in your estimation, 300 other persons were in such circumstances that if sickness attacked them they would be under the necessity of applying for medical relief? Yes, I am quite sure of that. 15614. But the number of paupers, strictly speaking, were limited to 100?—Yes. 15615. And the remaining 300 were persons in such circumstances as to render it probable that, in the event of their becoming ill, they would not be able to provide medical relief for themselves?—Not only probable, but certain. 15616. Who formed an opinion upon that subject?—This was a scheme suggested for our approval by the Board, under the direction of the Assistant Commissioner, Mr. Power. 15617. Did the Board of Guardians come to this decision: that whereas, 100 persons were regular paupers in the receipt of constant parish relief of some description or another, 300 other persons were in such circumstances as to entitle them to medical relief in the event of their being ill?—No; they considered that those 300 were liable to become paupers the moment they were sick, because they made the provision for it; in fact, *they made the medical man liable to attend* 400 *paupers, and paid for only* 100*!!!*"

It will be admitted we presume, that at such a rate the Doctors came off badly enough—and we presume there will be as little difficulty in admitting that the pockets of the rate-payers were tolerably well protected by Guardians and Assistant-Commissioners between them. But how fare the poor under this improved economical administration of medical relief?

The medical men of the district refused the terms of the Guardians and the Assistant Commissioners. What happened? Two out of the "plenty of talented young men from Somerset House," were sent down to supplant the resident practitioners.

"15667. What became of the officers who were in the Ongar and Epping Unions, and who had displaced the resident medical practitioners?—There were two of them; one was dismissed in consequence of a Coroner's inquest in the Epping Union; and another was dismissed in consequence of another Coroner's inquest! 15668. (Chairman.) What was the nature of those inquests?—They were inquests on the bodies of persons that they had attended; I do not know the particulars!! 15669. Do you happen to know whether there was anything in the inquests reflecting upon their treatment of the cases?—I presume there was, or they would not have been dismissed!!!"

Need we repeat our question, how do the poor fare under the "better system?"

We pass on to the evidence of

9. **JONATHAN TOOGOOD**, Esq. of Bridgewater.—According to this gentleman, there is one medical district in his neighbourhood, seventeen miles in extent, containing fourteen parishes, and part of it ten miles from the medical officer—besides this fact, there is nothing material elicited by his examination. His opinions coincide with those of other witnesses respecting the extent at which a rural district should be fixed, and the remuneration per case to be awarded to the medical officers.

10. **ROBERT CEELY**, Esq. of Aylesbury.—Admits that the "tender" system is no novelty, and that, in his neighbourhood, where it was in use before the Poor Law Amendment Act came into operation, "the medical men were more to blame than the authorities." He furnishes a laughable exhibition of the ignorance of Mr. Assistant Commissioner Gilbert:—

"15293. [*Chairman.*]—Do you know whether Mr. Gilbert had any personal communication with the medical men of the district?—He had not; *he fancied, in the first formation of the Union, that one medical man could do the duty of the whole Union;* he did not make that as an official communication, but he made it to a Guardian privately, who told him no such thing could take place; I had this from a person in communication with him.

"15294. [*Mr. Wakley.*] You have no doubt that he expressed that opinion?

—Not the slightest. 15295. What is the extreme length of the Union?—*The extreme length, in one direction, is twenty-three miles, and in the other direction, fifteen!*" p. 6

One of the expenses incidental to a medical appointment is also forcibly stated. On one occasion Mr. Ceely attended a parish in which an epidemic prevailed, and it cost him £10. to furnish wine and beef-tea for the patients because he was anxious to get them well as soon as he could; he was not compelled to do it; but the cases were so numerous and so distressing at the time, that he could not withhold that assistance.

Mr. C. thinks it desirable for a person who is practising amongst the higher classes to be aware of the epidemics that are prevailing among the poor; it is valuable to the poor, useful to himself, and advantageous to the community. He is also of opinion that greater facilities should be afforded to the poor for obtaining medical assistance than now exist; and sees, as an objection to payment per case, that *it restrains Guardians from giving orders for medical relief.*

Our space does not allow of our going at length into the examination of this witness—it will well repay any one who has inclination and leisure to peruse it in the "Minutes of Evidence" themselves. So far as we have yet passed those Minutes under review, he stands out conspicuous as one who makes the pockets of rate-payers, and even the reward of medical labour, very secondary considerations in comparison with the efficient medical relief of the sick poor. We have not the pleasure of a personal acquaintance with Mr. Ceely, but his evidence on this occasion has convinced us that he is what others would be thought to be—a lover of his kind, and a friend of the poor, in deed, as well as word.

11. William Farr, Esq.—This gentleman has been long and favorably known to the profession as a talented statistician; and by this time the whole country is in possession of no mean specimen of his ability in his letter to the Registrar General, published in that functionary's first report.

Through Mr. Wakley, all the returns from the different Unions were submitted to him—and the result of his examinations of them are given in evidence. According to that—the number of Unions is 501, the area of those Unions in square miles is 39,205, and the area of each Union in square miles is 78. 314 Unions contained 1,137 medical districts, consequently, each Union is divided, on an average, into 3·62 medical districts; that is 100 Unions are divided into 362 medical districts; 78 square miles, divided by 3·62, gives the average area of the medical districts, and from that it appears that the area is about 21½ square miles.

It is obvious that a very considerable disproportion must subsist in the size of different Unions. Two of the larger are mentioned—Leighton Buzzard is 55, and Newbury 72 square miles. In both, the surgeons reside in the centre of their districts, removed eight miles in the one case, and seven and a half in the other, from the extremities.

"These numbers do not give the extreme points, but the distance North, or South, or East, or West; if, therefore, the greater distance should occur between these points, it would not be given. In the Wallingford Union the area of the medical district is 26 miles; the boundary of the Union is eight miles from the surgeon's residence in one direction. In the Workingham Union district No. 1, the area is 25 square miles; but the surgeon residing out of the district, the distance from his residence, in one direction, is eight and a half miles. In Devonshire, the districts are generally small, but the Oakhampton Union district No. 2, is 54 square miles in area, and the boundary is eight miles from the surgeon's residence in one direction. In Northleach, in Gloucestershire, the upper medical district is not distinguished from the lower, and the area of both is 109 square miles. The surgeon resides out of the district apparently; it is eleven miles from his residence, to the southern extremity. Districts 1 and 4 of the Kington Union, Herefordshire; Mr. Merrick was the surgeon in 1837. The area is not given in square miles, but the distance from the surgeon's residence in one direction is only one mile, in another ten miles; in the Ledbury Union, district 2, the surgeon appears to reside out of the district, the distance from his residence is eleven miles in one direction, ten in another; in the Leominster Union, district 3, the area is twenty-five square miles; but the surgeon residing out of the district, the distance of the boundary from his residence in one direction, is ten miles. There are few returns from Lancashire, I suppose but few Unions have been formed; but the distance from the surgeon's residence in the West Broughton district is eleven miles in one direction; and in the Cotton district, ten miles in one direction. In Norfolk, the Thetford Union, comprising parts of Thetford and Hopton, the distance from the surgeon's residence is eleven miles and a half in one direction." pp. 97, 100.

"In Northumberland, the Haltwhistle Union, East and West division, comprises an area of 108 square miles." "In Salop the distance of the boundary of district 2, Clun Union, in one direction is eleven miles, in another four, in another 5, in another 6; in Westmoreland, Shap Westward comprises 98 square miles; the distance from the surgeon's residence in one direction, nine miles; in York, the Driffield Union comprises 115 square miles; its distance from the surgeon's residence in one direction is nine miles; in another, six; in another, six; in another nine." p. 100.

The unnecessary expense of time and labour to the poor, and to the profession, by such an arrangement of districts is obvious. The peril to the sick poor, in every case of emergency, requiring prompt attention, must be equally obvious. Mr. Farr's statistical researches help us to a still further knowledge of the impossible duties assigned to the medical officer in populous as well as extensive districts. The Leighton Buzzard and Newbury Unions already referred to, contained in 1831—the former, 11824, the latter, 18,999 inhabitants. The number of cases treated in the former was 1,845, the number constantly sick and constantly under the care of the medical officer in Leighton Buzzard was 100; in Newbury Union, 93. If those persons were seen every other day, the one officer would have to visit daily 50 persons, scattered over an area of 55 square miles, and the other 46, similarly scattered over an area of 72 square miles. The Dover medical district comprises a population of 20,507; that of Sevenoaks and Shoreham, 13,735; of Leicester No. 1, 23,954; No. 2, 13,74. The Lincoln Union, district No. 1, comprised 65 parishes, and a population of 25,988; the number of cases was 550, constantly sick 20. The Bethnal Green Union, having three districts, had in 1831—62,018 inhabitants. In St. Martin in the Fields the population was 23,970—1,511 cases were treated; 125 were constantly on the sick list in 1837. The Lambeth Union, divided into 6 districts, with a population of 87,856; produced 16,450 cases in one year, and furnished 313 persons for the constant care of the medical officers.

The evil consequences of imposing such Herculean labours upon individuals who have besides to maintain themselves out of their practice, are as obvious as those resulting from the enormous extent of the rural districts. The sick poor, if not absolutely in a great number of instances, neglected, are subject to be mal-treated from the haste with which their cases must be disposed of; or the medical officer is driven to evade the performance of his too onerous duties by devolving their discharge upon an unqualified, or upon an ill-qualified assistant; or upon apprentices, for whom the parish affords fair practice. As for the poor, no body cares about them; and Sir Astley Cooper's triple remedy—the *ordeal* of the Hall *passed*, the *diploma* of the College *possessed*, and an *examination* before a Midwifery Board *undergone*, will fail to protect them from the boys and young men who dispense the medicines of the rich, and prescribe for the diseases of the poor in a vast multitude of instances. Frightful would be the result displayed, were the comparative mortality ascertained, in districts attended by the medical officer himself, and in those where he only exercises a general supervision over the attendance of his apprentices.

Let us proceed with the invaluable testimony of Mr. Farr; and ascertain the remuneration doled out to the labourers in fields so crowded and so extensive.

"The payment is generally per case, or by salary, or on the pauper schedule. The salaries vary exceedingly in different districts without any apparent cause." p. 105.

In Devonshire, for example, "in the Crediton Union, district 1, the payment per case is 3s.; in the 2d district of that Union, the payment per case is 1s. 9d.; if the number of cases exceed 88, 1s. 6d.; in the 3rd district it is 1s. 9d. per case also, and 1s. 6d. if the number of cases exceed 172; in the 4th district the payment per case appears to be 6s.; the difference in the area of the two districts does not account for that difference, for the area of district 3, is 16 square miles, and the area of district 4 is 21 square miles. In district 5, the payment per case is 5s., and if the number of cases exceeds 98,—4s. In district 6—6s., and above a certain number, 8s. In district 7—6s., and for all above 98—5s."

In districts 1, 5, and 8, 9 of the Kingsbridge Union, the payments are 10s. and 8s. with a fixed maximum however. In the Tiverton Union, workhouse cases are 3s. Town cases 2s. Parish cases (without the gates) 5s. Halberton 5s.; Uffculm 4s.; but if the number exceeds 160—3s.; Cullompton, 3s.; if the number exceeds 226—2s. 6d.—in the workhouse, 2s. 6d.; in Bradninch 3s., and 2s. 6d. if the number exceeds 134. In the Bampton, while under 270—5s.; in the Silverton 5s.; in the Thorverton 5s.; in the Washfield 6s.; in the Cleyhanger 5s. "The payment per case in Devonshire ranges from 1s. 6d. which is of course much too low, to 8s. and 10s. per case, but in nearly all those districts a maximum is fixed."

We are glad to coincide with Mr. Farr, that the payment per case system is radically bad; it is bad for the poor, it is bad for the practitioner.

The unwillingness of the relieving officers to grant orders under this system, and the calamitous consequences of such unwillingness are notorious. "In Devonshire, half the pauper population of the county appears to be attended on the per case system; in the other half of Devonshire the medical officers are paid by fixed salaries; the annual proportion of the cases to a population of 1000 in Unions where surgeons are paid by salary, is 68.

There are 68 cases out of a population of 1000 treated by the parochial surgeon; in the districts where the surgeons are paid per case the proportion is about 50, or rather under 50. *The mortality among the latter cases is much higher; the mortality among the cases attended per case is* 59 *per* 1000; *among the others only* 52 *per* 1000; 332 *deaths occurred in Devonshire among* 5587 *cases treated on the per case system; if the mortality had been the same as among the other cases, only* 292 *deaths would have occurred!* or 40 less than the actual number of deaths recorded."

So far the unwillingness of relieving officers to grant orders may be said to be demonstrated by Mr. Farr's figures. Had that gentleman possessed experience of the working of the system, even where the payment is by fixed salary, he would have been able to add that orders are multiplied to a medical officer in the inverse ratio of that functionary's attention to his duty and care of the poor.

If the medical officer leaves his pauper practice to apprentices and servants—the paupers die, it is true, in greater numbers; but then the parish is not burthened but rather relieved. If the medical officer sees his own sick, he finds they need wine and nutritious diet—he wishes their recovery—he recommends more liberal supplies of medical comforts than his more careless colleague—he loses fewer patients, but then the parish is more heavily taxed. Of what value is the poor man's health or life, weighed in the balance with the rich man's pockets.

Mr. Ceely need not have apologized for introducing the following quotation from Lord Bathurst—which is literally applicable to the case before us, and which, therefore, literally, and without apology, we apply to it in this place. Corporate bodies, have, indeed, no souls! "All corporations of men," observes Lord Bathurst, writing to Swift, "are perpetually doing injustice to individuals. I have often reflected (from what cause it arises I know not) that though the majority of a society are honest men, and would act separately with some humanity, and according to the rules of morality, yet, conjunctively, they are hard-hearted determined villains!"

We should be well content to transfer the whole of Mr. Farr's upright, manly, noble testimony to our own pages, and consent most grudgingly to let any of our readers go, with only part of it—but time and the printer both forbid.

According to Mr. Farr, and according to universal common sense, good medicines and good medical advice are more economical than bad medicines and bad advice. According to him, and according to common humanity, medical relief "cannot lead to the same abuse as relief in aid of wages, or as relief afforded when the labourer is out of work; no one will break his leg willingly, or take physic as an amusement; medical relief has no tendency to increase sickness or the demand for relief that cannot be refused. NO ONE WITH A HUMAN HEART CAN DENY RELIEF TO THE SICK: MEDICAL MEN CANNOT."—*Minutes of Evidence*, p. 107.

"No one with a human heart can deny relief to the sick; medical men cannot." That may be, but sad experience has proved that Commissioners and their Assistants, Boards of Guardians, and their Relieving Officers, CAN. As Lord Bathurst says, "CORPORATE BODIES HAVE NO SOULS."

It would, however, be unfair, not to add that Mr. Farr admits having had every facility given him in consulting the returns at Somerset House, and whenever he called upon Mr. Chadwick, the most ready access afforded him to those returns. Lux ex non ——; Spes ex non: let us look for the dawning of a better day, but let us also be up and doing, lest, if it be thought that we have again retired to our dormitories, while we sleep the plunder of the profession, and the mal-treatment of the poor, continue as before.

The last of the band of worthies who have helped to throw light upon the one evil of poverty to which the present article is devoted, and its remedies —namely—sickness—and medical relief, is:—

12. **HENRY WYLDBORE RUMSEY**, Esq.—Who is also the author of one of the works which it was proposed to bring under review in this article. An analysis of his evidence will serve for a review of his pamphlet, which we recommend to every one who may be interested in the struggle between the rich and the poor, who help to pay all rates, without the name of paying any.

The details, with respect to extent of district—amount of labour exacted—and amount of remuneration assigned, correspond with those already given in our examination of the other parliamentary witnesses. He however, adds to those details, a very instructive table of the reduction in the number of medical officers in 12 Unions: " In the Aylesbury, from 16 to 3; in the Banbury from 14 to 3: in the Cookham Union, from 8 to 2; in one district of the Eton Union, from 4 to 1; in the Faversham, from several to 1; in the Newbury, from 12 to 1; in the Ongar, from 10 to 4; in the Shipston-on-Stour, from 10 to 2; in the Stow, from 8 to 3; in the Tonbridge, from 5 to 1; in one of the districts of the Windsor Union, from 4 to 1; in one district of the Witney Union, from 8 to 2; in the Woodbridge Union, from 10 to 4; *making a total of* 109 *reduced to* 27; *that is a deficiency of* 82 *medical officers out of* 109 !"—*Minutes of Evidence*, pp. 28—9.

He also gives the lie to that " Report" which we have exposed already. Mr. Rumsey not only disputes the wisdom of the Commissioners' " better system," and denies their conclusions, he also contradicts their facts.

We have now closed our notice of the evidence taken before a Select Committee of the House of Commons. That evidence convinced the Committee—that the medical districts were too large—and the labours of the medical officers too onerous—that the system of contract by tender is not to be endured, and that the present average rate of remuneration, say 3s. 3d. per case, should be doubled.

Some of the recommendations of the witnesses, though not adopted by the Committee, are worthy to be reconsidered by any future Committee. These are—the deposit of a medicine chest, in every parish, where parishes are small and scattered, and many of them come to be included in a medical district—the appointment of a Medical Commissioner, and of Medical Assessors, for the better supervision and more effectual control of the medical department. Mr. Rumsey proposes that the election of the medical officer should be transferred from the Guardians to the practitioners at large, that, in fact, the medical officers should be elected as the Guardians themselves are elected.

We come now to consider Mr. Serjeant Talfourd's letter to Mr. Rumsey—and the proposed improvements which he is to bring before Parliament in the session 1839-40.

One of his propositions relates to the qualifications—another to the districts—and another to the remuneration of medical men. The two latter are easily settled, justice and mercy being the bases of the settlement. The former, he proposes, should consist of a College Diploma—and when the practitioner dispenses his own medicines, a Hall licence. This ought to conciliate Hall and College, and guarantees a fair qualification of ability.

The subject of medical relief for the sick poor has occupied our own thoughts for some years past. We have made extensive researches into the mode of administering it not only in this country, but also on the Continent, and have come to the conclusion that the present and all former modes among ourselves, is defective in principle, and vicious in practice.

This is not, however, the place for endeavouring to sketch a new, and a very different, system from that which has been hitherto adopted. At a future time, or in another place, we shall, probably, develope the views which we entertain, and which our crippled space prevents us from entering on at present.

In relation to medicine and the sick pauper, the Poor Law Amendment Act has hitherto proved a Pandora-box, from which evil after evil has come forth; who knows but that even from this fons malorum there may yet issue good at the last?

One word more. The poor are said by many to be sadly wanting in gratitude,—as though the poor were differently constituted from other men. Now we have not only always found with Boerhaave that the poor were our best patients because God was their paymaster—we have also found that the poor were more content with few attentions and a little kindness than the rich with much attendance and many good offices, and more grateful for ease and health than their wealthier neighbours. And we would need no better proof of a medical officer's having neglected or performed his duty, than his own appreciation of the spirit of gratitude evinced by his pauper patients. Uniting our experience with Mr. Ceeley, we adopt his language and say:—" We have found them very far from insensible to the advantages of a kind and close attention in cases of sickness—indeed the greatest satisfaction we have ever had in the performance of our duty has been with the poor, from the manner in which they received it, they appeared to appreciate it: nor, indeed, do we ever find so much gratitude evinced by any class of society as by the poor."

What a man sows that shall he reap. If the seed be charity, the wreath gathered will be gratitude.

TEA: ITS EFFECTS, MEDICINAL AND MORAL. By *G. G. Sigmond*, M.D. 8vo. pp. 144. Longman, 1839.

THE opening pages of this elegantly written volume alarmed us a little, lest its accomplished author had been bitten by the TEATOTALO-MANIA of the present day.

> "Individually and nationally we are deeply indebted to the tea-plant." "A curious, and not an uninstructive, work might be written upon the singular benefits which have accrued to this country from the preference we have given to the beverage obtained from the tea-plant, above all those that might be derived from the rich treasures of the vegetable kingdom. It would prove that our national importance has been intimately connected with it, and that much of our present greatness, and even the happiness of our social system, springs from this unsuspected source. It would show us that our mighty empire in the East, that our maritime superiority, and that our progressive advancement in the arts and the sciences have materially depended upon it." 3.

We soon discovered, however, that Dr. Sigmond had too much good sense, and too much professional discrimination to be led into this monstrous extreme. Do these tee-totallers imagine that the vine was spread over the most delightful countries in the world by the hand of a beneficent Creator, for no other purpose but to allow its delicious fruit to fall to the earth and rot? Wine is to many constitutions, not only a luxury but a necessary preservative against many diseases which, were it not for the moderate use of this beverage, would assail the body. If they cry out against the pleasant sensations produced by wine, do they mean to say that equally pleasant sensations are not excited by their tea? O, but they tell us, wine produces bad effects in the end. So it does, if taken immoderately:—and so does tea, if taken in excess. Physicians of no mean eminence, even in our own time, (for instance the late Dr. Trotter) have deplored in terms as eloquent as those of Dr. Sigmond, the degeneracy which was rapidly spreading over the present and rising generation, in consequence of the pernicious habits of tea-drinking! The amiable Archdeacon of Bombay has given way to the following Bombay—or rather bombastic absurdity, in his anathema against wine.

> "Bacchus, astride of the spirit cask, is the very evil genius of desolation and wretchedness, poverty, disease, and crime; and to have anything to do with his horrid cask, to buy any of it, or to sell any of it, or in any way to lend the respectability of our name in the consumption of it, is downright insanity." 6.

Now if the worthy priest had been seized with the horrible spasms of cholera, while he was inditing the foregoing passage, would he have refused a good dose of laudanum because the menstruum came originally from the cask of Bacchus? Not he.

The sentiments of Dr. Sigmond are very different.

> "That dram-drinking is the pernicious source of poverty and sorrow there can be no doubt; but the question may be fairly asked, and duly considered, whether the glass of generous wine, or strengthening beer, is to be totally abandoned, without an examination of the circumstances which may render a moderate enjoyment either prudent or necessary? Must man rush from one extreme to the other? Do not temperature, climate, age, demand some investigation before the denunciation of all fermented liquors be countenanced; and will not even the lover of tea acknowledge his susceptibility of the pleasure and of the utility of his favourite beverage to be heightened by a moderate indulgence in Nature's other gifts? 5.

Upwards of one hundred pages of the volume before us, are occupied with the history, botanical, agricultural, and commercial, of the tea-plant, written in an elegant style, and pregnant with various and useful information. All this we must pass over, in order that we may be able to spare a few pages to that portion of the work which comes more immediately home to our professional avocations and reflections.

After some judicious remarks on diet, and on the necessity for varying it according to the constitution, habits, and avocations of the individual, he cômes to the subject of drink, and more especially of tea. He properly observes that, although water is the great beverage of animals and the support of vegetables, it will not suit all constitutions alone. In many countries, districts, and cities, the water is actually bad and unwholesome, not only from mineral, but from animal, or vegetable impregnations. In hot climates the thirst is great; and water alone will not do for all, or even a majority of Europeans transplanted there.

> "In almost all warm climates, those who have previously lived in more temperate regions, constantly sip or drink large draughts; but if the first of these habits be acquired, and a bland, slightly bitter fluid such as tea be employed, health will be promoted, and the comfort that it produces will become apparent." 137.

In such cases the beverage of tea or rice-water is preferable to the porter-cup or brandy-shrub. In hot weather, in this country, Dr. S. thinks that tea would be preferable to ice, so commonly had recourse to, for quenching thirst. The following quotation will shew that our author is not yet a disciple of the teatotalo-mania.

> "It has been believed, in consequence of some observations made by Mr. Abernethy, that during eating there should be no drinking; and certainly this rule, in some of the diseases of the digestive organs, is important; but it is not to be applied to a state of health. A due admixture of fluid and solid matter is absolutely necessary for healthy action; not large and copious draughts of any fluid whatever, but sufficient to stimulate the salivary glands into their proper secretion, and also enough to propel the already digested mass from the stomach. A gentle stimulus of three or four glasses of wine during the great meal of the day, is the common habit of life of those engaged in occupations which do not demand any very extraordinary exertions, either of body or of mind; and the general state of health, and the longevity of those who do not trespass further upon the limits of moderation, are evident proofs of the propriety of such a system; after the meal, when some little time has elapsed, two or three glasses of Port produce no ill effects. Some individuals only take their wine after the dinner: but this is by no means so serviceable; for the stomach becomes suddenly stimulated, its action is hurried, and the slow and gradual development of heat is exchanged for a sudden excitement, which leaves a greater degree of collapse behind. About two hours after this a diluent may be advantageously taken; then it is that tea imparts a grateful glow of warmth, assists the stomach to unload itself from the digested food, which it gently propels; soon after it has been taken, the languor which is usually attendant upon a full meal disappears, the propensity to slumber so apt to prevail is dissipated, the body feels light, and the mind capable of either gathering fresh information, or of indulging in the recreation which society affords." 109.

Dr. Sigmond condemns the use of strong coffee after dinner, which we have copied from the French. Our strong wines do not require the stimulus of coffee.

> "Excitement follows upon its use; watchfulness of a long duration, and a feverish re-action, are amongst its immediate results: its distant ones act upon the extreme capillary vessels of the body, which it seems to constringe, affecting the skin, giving it a peculiar hardness, and it has been affirmed to impart its

colour; the sallowness of the skin of the Parisians has been, by more than one medical author, ascribed to it. Many authors have affirmed that paralytic affections, and general debility, follow its use. After dinner, in the form of very strong infusion, the *café noir* is often taken without sugar, sugar-candy, cream, or milk, and is almost an essence of the berry. The individuals to whom it is useful, are those whose breathing is performed with difficulty; they find the greatest relief from drinking strong coffee, and many escape the midnight paroxysm of asthma, by taking their cup about four hours before the usual hour of retiring to rest." 110.

Where individuals can make a good substantial breakfast, tea is better than coffee—and *vice versa*. Tea, without a sufficient quantity of aliment, is apt to influence the nervous system—but so, in fact, is coffee. Cocoa or chocolate is preferable to either, where sufficient bread cannot be taken—the following advice is good.

"Nothing can be more injurious than the habit of taking spirits at breakfast in tea; and this is a very seductive custom, which is followed by persons who complain, that two or three hours after breakfast they feel, without their dram, an uncomfortable sinking at the stomach, a general depression, sometimes palpitation of the heart, and a sense of languor and incapability of moving the limbs, which renders them quite incapable of pursuing their daily avocations." 111.

The rum and milk before getting out of bed is just as bad, though it is recommended by some of the magnates of the profession—whether from personal predilection or general experience, is best known to themselves.

"Tea is more particularly adapted for the ordinary beverage of young women; and the individual who, until the day of her marriage, has never tasted wine, or any fermented liquor, is the one who is most likely to preserve her own health, and to fulfil the great end of her existence, the handing down to posterity a strong and well organised offspring, capable of adding to the improvement and to the welfare of the community." 117.

The following picture of the poisonous effects of green tea on some constitutions, is probably not overcharged—but the more usual effect of this beverage on nervous persons is utter sleeplessness.

"The ordinary effect of green tea taken late at night is incubus or night-mare in its most formidable shape; and many persons, who after a hearty dinner have taken green tea, wake in the midst of the night in a state of the most fearful agitation and excitement: the head is oppressed, a sensation of approaching death is felt, or sometimes the person seems to be dragged from the lowest abyss of darkness back to the world, from which during his paroxysm he had felt gradually to sink. Although none of these symptoms are permanent, and after they have passed away they are forgotten, yet a frequent recurrence of them must lay the foundation of mischief, and ultimately tend to the shortening the duration of life. Many individuals, who have to undergo fatigue, drink quantities of green tea as an antisoporific: certainly it has much power in this way; indeed, it has been successfully employed as an auxiliary to resist the narcotic effects of opium, when it has been too largely taken; but, as the action is that of a sedative upon the heart and arteries, it is injurious, and coffee is much to be preferred, which produces arterial excitement, and thus influences the brain and nervous system, even to the production of exhilaration, which is rarely, if ever, the consequence of the employment of tea." 128.

We must conclude our extracts with the following, which we recommend to the teatotallers, as coming from a physician who is an enthusiastic admirer of tea.

"The vicissitudes of human existence, sometimes in a state of the utmost simplicity, at others of unbounded luxury, demand that aliment suitable to the general wants, as well as to each individual member, should be obtained; that fermented liquors, if injudiciously taken, produce diseased stomachs and livers, consumption, dropsy, madness, is universally acknowledged; and the prudent man, who fears that he may be betrayed into a single excess that may overpower his reason, is perfectly right in shunning the means of mischief. But good wine is a good cordial, a fine stomachic, and taken at its proper season invigorates mind and body, and gives life an additional charm. There can be found no substitutes for the fermented liquors, that can enable man to sustain the mental and bodily labour which the artificial habits of society so constantly demand. Temperance and moderation are virtues essential to our happiness, but a total abstinence from the enjoyments which the bounteous hand of Nature has provided, is as unwise as it is ungrateful. If, on the one hand, disease and sorrow attend the abuse of alcoholic liquors, innocent gaiety, additional strength and power of mind, and an increased capability of encountering the ever-varying agitation of life, are amongst the many good results which spring from a well regulated diet, in which the alcoholic preparations bear their just proportion and adaptation." 131.

From these specimens, selected from only one portion of the work, our readers will be induced to peruse the whole.

ELEMENTS OF THE PRACTICE OF MEDICINE. By *Richard Bright*, M.D. and *Thomas Addison*, M.D. Physicians to Guy's Hospital, and Lecturers on the Practice of Medicine. Vol. I. London, 1839, pp. 613.

"THE authors of the present publication, while engaged in their duties as teachers of the practice of medicine, have frequently felt the want of a work at once elementary and practical to which they might refer their pupils as a companion and assistant during the period of their studies. It is with a view of supplying to themselves such a book of reference, that they undertake to add another to the many elementary works which are already before the public."—*Preface, p.* v.

The volume before us being chiefly intended for the gentlemen composing the practice of physic class at St. Thomas's, whereas our Review is designed to circulate through all classes of the profession, we should be excused for not giving more than a cursory notice of a work confessedly elementary, and confessedly, too, only one of "many elementary works already before the public," and already reviewed in our pages, were it not the fact, that while, nominally, only elementary, it is, in reality, much more.

The present volume is confined to the subject of fever and the phlegmasiæ, and, although, upon the publication of the first fasciculus, the authors proposed to abstain from theoretical discussions, they saw fit, in the second part, to allow even these their place—and thus, instead of a student's companion, of use in the class-room, and in the clinical ward—a lamp for his path, and a lanthorn for his feet, as all elementary works ought to be—we find ourselves called to travel over again, though certainly at improved railway speed, the old roads of long-exploded and universally-rejected theories, the name with which the vague hypotheses of conjectural and imaginative, but unthinking minds are too frequently dignified.

From men so eminently practical as Drs. Bright and Addison are known to be, we shall only be expected to select what they themselves call "sound doctrines and wholesome practice."

One-fourth part of the whole volume is occupied with the subject of (A) FEVER; which our authors treat under the separate heads of Idiopathic, Intermittent, Remittent, Infantile Remittent, and Continued Fevers. This division, it will be seen, completely excludes the synocha or inflammatory fever of Cullen from the list of idiopathic fevers, which, on account of its "extremely rare occurrence, unconnected with some local inflammation or catarrhal affection," is referred to inflammation or catarrh.

IDIOPATHIC FEVER.

With the symptoms and divisions of idiopathic fever our readers are familiar. The only exciting causes mentioned by the authors of the present volume are marsh miasmata and contagion. The former is undoubtedly a principal cause.

I. INTERMITTING FEVER.

We select a couple of passages on, first—

Complicated Ague. "By complicated ague is meant, an ague, to the ordinary phenomena of which, is superadded some unusual local affection, being most commonly seated in the abdomen, in the chest, or within the head. The abdominal complication is most frequent, and in this country is most prevalent during Summer and Autumn. It may not amount to more than that sickness at stomach, and moderate degree of purging, to which many persons in ordinary health are subject at these periods of the year, depending upon the presence of vitiated secretions, especially from the liver. In other instances, however, we have more decided indications of actual inflammation, affecting either the mucous lining of the alimentary canal, the liver, or the spleen, as shown by the presence of the usual symptoms of these respective diseases."

" Thoracic Affections are most prevalent in Winter and Spring. They are usually of an inflammatory character, and present the ordinary signs of bronchitis, of pleurisy, or of pneumonia.

With respect to the head, symptoms of irritation or of inflammation of the brain, or its membranes, have not unfrequently been observed to supervene in the progress of an ague, the patient being affected with violent headache, delirium, stupor, coma, convulsions, or rigid spasm."

And, 2ndly, on—

Irregular Ague.—Ague "sometimes changes its type, the quotidian becoming a tertian, and the latter passing into a quartan, or *vice versâ.* In other instances, the disease maintains no determined type whatever, but is constantly varying, when it is said to be erratic. In some cases, the cold stage has been altogether wanting, in others there has been no hot stage, whilst in others there have been a cold and a hot, but no sweating stage. Occasionally the disease is very imperfectly developed, so that the patient only experiences frequent but irregular chills, and a general feeling of indisposition; this is vulgarly expressed by saying that such a person does not shake out, or that he is affected with the *dumb* or *dead* ague. It has also been observed, that the consequences of exposure to miasmata may simulate, or at least impart a periodic character to other diseases, such as neuralgia, headache, or even some forms of actual inflammation." 37, 38.

Passing over the Predisposing and Exciting Causes of Ague; and the Diagnosis and Prognosis of the Disease, when it occurs; we hasten to examine the mode of treatment recommended.

Change of place—emetics—opium in large doses—and the application of tourniquets, to anticipate the expected paroxysm, and break the habit of recurrence so characteristic in all the forms of regular ague, are the means enjoined for the general treatment of the disease. In the cold stage, when the paroxysm has begun, an emetic at the very commencement, or an opiate at any period of its progress, will be found of advantage: and so will the tepid bath; bottles of hot water applied to the feet and stomach; and the free use of warm diluents, or even vinous drinks. In the hot stages, the temperature should be diminished; the clothing of the bed and body lessened; cool, acidulated, and saline drinks, substituted for the warm and stimulating potions which were called for in the previous stage; and opium administered, unless contra-indicated by obvious congestion or inflammation. Of venesection, diaphoretics, and purgatives, our authors speak slightingly. While of another favourite remedy this is all the mention. "Some have recommended cold sponging either with water or vinegar and water, and others the tepid or cold affusion." Cæsar himself, as Cassius marked him when the fit was on him, could not have expressed himself more chillingly. In the sweating stage, tepid diluent drinks are all that is needed, common sense dictating the avoidance of every thing calculated to impede the perspiration. The indication during the period of intermission, is, to cure the disease by preventing the recurrence of the paroxysm. This may be effected either by cinchona or arsenic. The former, given in divided doses of the sulphate of quinine, during the entire intermission; the latter, in combination with laudanum, in doses of from four to six minims of the liq. arsenicalis, three or four times a day, and this will be assisted by the infusion of cascarilla, which forms as convenient a vehicle as any for its administration. "The treatment of irregular, is the same as that of regular ague." In the complicated variety, the complication indicates what modification is necessary in the treatment.

II. REMITTENT FEVER.

This class of fevers is closely allied to the intermittent, having the same origin and in many respects the same phenomena; and requiring analogous treatment; its most marked difference being clearly pointed out by its name. The paroxysms are less marked, the interval between them witnessing no intermission of symptoms, but only, and that not always, a decided remission. In malignant cases it corresponds so closely to typhus or continued fever, as to be with difficulty only distinguished from it.

" When, in a common continued fever, the mucous membrane of the ilium is considerably involved, that disease often puts on a good deal of a remittent, or rather an irregularly hectic form; the patient experiencing frequent exacerbations and remissions, not perhaps preceded by chilliness or succeeded by much sweating, yet sufficiently well marked." 55, 56.

" The indications" of treatment " are, first, to subdue or remove that general febrile excitement which prevents the intermission, and thereby converts into a remittent what would otherwise prove an intermittent; and, secondly, to complete the cure, according to the same principles as apply to intermittents."

The first of these indications is to be fulfilled by active purgation at the commencement, or, when the disease at its commencement is accompanied with purging, by mild laxatives to evacuate the contents of the bowels, combined with opiates to allay the irritation of the intestinal canal;—by blood-letting, general—to subdue the violence of the general fever—and topical, where there are symptoms of local congestion or inflammation;—by saline diaphoretics; an antiphlogistic regimen; and mucilaginous drinks.

In pursuance of the second indication, the sulphate of quinine, or, perhaps, the arsenical solution, may be had recourse to. Upon the use of the former in aged persons, there is a practical observation of great value, which we give in the words of the authors.

" When the disease occurs in old people, and in those of impaired constitution, it will very often not only be safe but necessary to have recourse to it as soon as we have succeeded to some extent in subduing the general excitement, and in relieving individual organs, notwithstanding the continuance of symptoms which in a common continued fever are regarded as contra-indicating its use. Under the circumstances mentioned, a moderate heat of skin and frequency of pulse, some degree of headache, and a foul, loaded, or even dry and brown tongue, ought rather to encourage than deter us from the cautious exhibition of the drug; all these symptoms frequently being observed speedily to subside under its use, and thereby furnishing a sufficient evidence of the pathological difference between a marsh and a common continued fever, how much soever they may correspond in their external aspect." 61, 62.

III. Infantile Remittent Fever.

The description of this disease, as it occurs in children of from one to eight or ten years of age, is highly graphic. As one of the best portions of the volume before us, we have the less hesitation in transcribing it entire; our own experience helping us to verify it in all its parts.

" When a child of from one to eight or ten years of age has a pale, muddy, and dejected or anxious countenance; a foul tongue; a tumid belly; an irregular appetite, and a morbid state of the bowels; when it picks its nose, and is fretful and restless when awake, and whines, moans, or starts in its sleep, that child is vulgarly said to be suffering from *worms*. If, together with the above symptoms, the child experience occasional accessions of febrile excitement, it is in like manner said to be the subject of *worm-fever*.

These terms, familiar to the unprofessional public, have, as usual, their foundation in correct observation, the diseased conditions alluded to being uniformly associated with derangement of the primæ viæ, and not unfrequently with worms. By the profession, the accompanying fever has been designated *gastric*, or more commonly infantile remittent fever.

With or without fever, the disease is one of extremely frequent occurrence, and moreover one of vast importance, in consequence of the powerful influence which greater or less degrees of it have in modifying, or in actually inducing, a very large proportion of the disorders incident to early life.

The drooping and listlessness of the child, the muddy or pale face, the languid expression, the dark areola around the eyes, and the dilated or unsteady pupil, at once arrest the attention of the observant practitioner, who, on inquiry, is usually informed that the child, without any assignable cause, began to droop and waste in flesh; that its appetite is impaired, voracious, or capricious; that it occasionally complains of pain in its stomach or head; and that the alvine discharges are offensive and of a dark, pale, green, slate, or clay colour; that the child moans, starts, or grinds its teeth during the night; and that it picks its nose during the day. On examination, the tongue is usually found coated with a white mucus, most considerable towards the base; the belly more or less distended; and the breath nauseous or otherwise offensive.

This state of disease may continue for an indefinite period, with the effect of merely occasioning more or less emaciation and loss of healthy complexion, and may be gradually removed either by the voluntary efforts of the constitution, or by the timely interference of art.

Should these symptoms, however, be disregarded, it very often happens that the child begins to experience irregular exacerbation of febrile excitement, often leading the parents to declare that the child is at one time pale with cold, at another burnt up with fever and parched with thirst.

The febrile exacerbations vary much in their intensity, frequency, and duration. There may be one, two, or even three, in the course of the 24 hours; that in the evening being commonly the most severe.

Each exacerbation is marked by restlessness and impatience of any disturbance; a hot and dry skin; a flush on one or both cheeks, especially in those who have a fair and delicate skin; remarkable drowsiness; some hurry of respiration; feebleness of the voice; a short hacking cough; a frequent pulse; more or less thirst; and picking of the nose, lips, tongue, or some other part of the surface, these symptoms varying both in number and degree in different cases. On the subsidence of the paroxysm, the skin cools and relaxes, but in general without much perspiration; the urine deposits a sediment; universal relief succeeds; and the child is left comparatively free from bodily suffering or mental dejection.

If, however, the disease be allowed to proceed uncontrolled, the exacerbations are liable to become more and more severe, and the remissions less distinct; the appetite is entirely lost; the thirst becomes incessant; the tongue gets dry and brown; the lips and teeth covered with a dark sticky mucus; the voice husky or suppressed; the hacking cough more distressing; delirium supervenes; and the debility and emaciation increase, till the patient sinks completely exhausted; or, symptoms of hydrocephalus supervening, coma or convulsions more abruptly close the scene.

For the convenience of description, the symptoms enumerated may, with some propriety, be divided into three groups or orders: the first, characterizing cases unattended by any febrile exacerbation whatever; the second, cases with moderate but distinct febrile exacerbation; and the third, cases of great severity, in which the exacerbations are so acute, and the remissions so imperfect, that the disease approaches the character of a continued fever." pp. 62, 3, 4.

The treatment consists in emptying the intestines of every thing irritating; in correcting the vitiated secretions; and in the due regulation of regimen and diet.

After the morbid condition of the intestines has been to a certain extent removed, the occasional use of the warm-bath will materially contribute to produce a state of convalescence; and that state will be still further promoted by the cautious exhibition of mild, bitter tonics, combined with small doses of the carbonate of soda. In some instances, the sulphate of quinine, in others the chalybeates prove very beneficial.

IV. CONTINUED FEVER.

Under this title, as the least ambiguous, Drs. Bright and Addison comprehend every variety of disease described by other authors as synochus, typhus, adynamic fever, nervous fever, ataxic fever, jail fever, malignant fever, spotted fever, putrid and contagious fevers.

They treat of it under its mild, severe, and complicated forms. Under the complicated form we have it combined with predominant cerebral, abdominal, or thoracic affection; each of which varieties is sketched with a masterly hand.

The indications of treatment are two:—

1st. To cut short the disease, if practicable, by a brisk emetic, active purgation, and one free blood-letting at the commencement, followed up by the cold affusion, or, where the attendants revolt from that remedy, by sponging the surface with cold water or vinegar and water, or vinegar and water with the addition of æther; and by the administration of saline diaphoretic medicines.

2nd. Failing to fulfil the first, to conduct the disease to a successful termination; which is to be accomplished by the judicious employment of occasional laxatives, and of different preparations of mercury, according to the peculiarities of special cases; a low diet, antiphlogistic regimen, and acescent drinks; with a diminished temperature and free ventilation.

Should these means fail of fulfilling either indication, and the *mild* run into the *severe* form, depletion and counter-irritation are further indicated, the latter by the constant application of cold to the shaven scalp—assisted by a blister to the nape of the neck, and mercurial purges. If, after all this, the cerebral disturbance and irritation to a considerable extent remain, small and frequent doses of laudanum are recommended—and if, notwithstanding, the powers of life begin to fail, stimulants and tonics end the catalogue of remedies—and only too frequently exhibit the impotence of medicine.

We transcribe another practical caution of value to every practitioner.

> " Before proceeding," they say, " to point out the treatment applicable to the more decided inflammatory complications of fever, it must be observed, generally, that although these inflammations are to be treated on common principles, it must never be forgotten that, along with the inflammation, we have to contend with a fever which is at all times of uncertain duration, and which never fails to impair more or less the vital powers of the system; and, consequently, that in adopting depletory measures, we must employ them with extreme caution and with a sparing hand." p. 108.

In the *cerebral complication* which, from the intensity with which the brain is affected, has obtained the name of brain fever, the blood-letting should be not only free in the first instance, but repeated as often as may be necessary, and, when doubt exists of the propriety of carrying general blood-letting further, the abstraction of blood from the neck and temples by cupping are suggested. A shaven crown—and cold head are of course indispensable—the last being effected by evaporating lotions, or a descending column of water made to impinge upon it. Free evacuations of the alvine canal; abstinence from slops; with the exclusion of light and the suppression of sounds, are also to be resorted to.

Upon the use of the strait-waistcoat in these cases, we entirely concur with the writers, that it is " a proceeding which ought never to be adopted, provided the safety of the patient and of his attendants can be secured by more gentle means."

In the *Complication with Abdominal Affection*, where vomiting prevails attended by tenderness at the pit of the stomach—general blood-letting must be more sparingly resorted to—the use of mercurials, especially of calomel, is contra-indicated—topical blood-letting by leeches—counter-irritation by poultices, blisters, or, better, because more promptly efficacious, the application of the liq. ammon. fortiss. over the region of the stomach; and mild emollient laxatives, are the principal remedies to be depended upon. When diarrhœa is present, as frequently happens, a dose of castor oil, combined with a few drops of laudanum will prove of the greatest service.

Such cases are, generally, protracted; and leave, as their sequel, emaciation, sometimes so deplorable that the bones of the hip and sacrum protrude through the skin, and give rise to foul, sloughing ulcers. Dr. Arnott's water-bed is properly enough recommended where it can be procured; but how few fever patients, comparatively, have any bed at all to lie upon! For these, even the alternative of pillows are scarcely procurable. And in such cases we advise the liberal employment of common lead or soap plaister.

Where the *predominant* is a *thoracic affection*—it may be bronchitis—pneumonia—or pleurisy. And very different treatment being required in these cases, the diagnosis cannot be too careful. We cannot do better here than speak our own thoughts in the words of the volume under review:—" if general blood-letting to any considerable extent be an ambiguous remedy, even in idiopathic bronchitis, it is a practice which requires much more scrupulous caution in fever," (complicated with bronchitis.) " In truth it is rarely admissible; local depletion, by cupping or leeching, or the application of a blister, being much more safe and often sufficiently effective." p. 113.

Where pneumonia supervenes, or pleurisy, the practitioner need have no fear of the lancet, it is his sheet anchor.

In bronchitis—mercury is generally inadmissible—antimony, and the best preparation of it is the tartar emetic of the Pharmacopœia, is *the* remedy to be relied on.

In pneumonia and pleurisy, on the contrary—not antimony, but mercury, is the medicine to be trusted.

With theories, we promised our readers at the commencement of this article, they should not be troubled; and we shall therefore pass by in silence the Authors' Theory of Fever.

We proceed to glance at the contents of the second division of the volume which treats of—

(B). INFLAMMATION.

After premising a few comments on the ordinary signs of inflammation it proceeds to point out the changes which take place, and the constitutional effects produced by it. The former are—1st. Loss of Cohesion. 2d. Effusion of Serum. 3rd. Effusion of Coagulating Lymph, organizable or coagulable Lymph; inorganizable, or Pus. 4. Arrestment of Organic Function, constituting Gangrene and Sphacelus. The latter are, hectic fever, mortification, ulceration, granulation and cicatrisation; but whether the two last are to be considered as changes at all, appears to us very questionable.

The particular inflammations treated of are, catarrh; influenza; bronchitis; laryngitis; croup; hooping-cough; pneumonia; pneumothorax; pleuritis; phthisis pulmonalis; pericarditis; phrenitis; arachnitis; cerebritis: otitis; cynanche tonsillaris, chronica, pharyngea, membranacea, and parotidea; acute, puerperal, chronic, and latent peritonitis; acute and chronic gastritis; acute and chronic enteritis; inflammation of the cæcum and appendix vermiformis; hepatitis; acute hepatitis, (1st of serous covering, and 2d, of parenchyma); subacute and chronic hepatitis; splenitis, (1st, of serous membrane, 2d, of parenchyma,); nephritis, cystitis, rheumatism and gout.

In noticing the inflammatory affections, as cursorily as our limits require, we shall group them in orders, according to their organic seats; not having space to consider them separately.

I. Inflammations of the Mucous Membranes.

These may be divided into—1st. *Inflammations of the Mucous Membrane lining the Air-passages*, and 2ndly, *Inflammations of the Mucous Membrane lining the Alimentary Canal.* And these again may be subdivided, the first into Catarrh and Influenza, Laryngitis, Croup, Bronchitis, and Hooping-cough, which are all modifications and degrees of one common disease—calling for the same general treatment, only modified by the specific varieties of the disorder; the second, into Cynanche, Gastritis, Enteritis, or Muco-enteritis, and Cystitis.

Catarrh.—"In its most exquisite form, may be said to consist of an inflammatory condition of the mucous membrane of the nose, eyes, frontal sinuses, fauces, trachea, and bronchial tubes; generally attended with pyrexia; for the most part sporadic; but occasionally epidemic, when it receives the name of,"

Influenza:—the chief peculiarities of which are, its almost universality; the abruptness of the attack;—and the rapidity with which it increases in severity.

Laryngitis, is inflammation of the same membrane where it lines the larynx; and

Croup and *Bronchitis* are still inflammations of the same tissue, changed only in their locality, and every variety of symptom by which they are severally distinguished being produced by the altered circumstances of their respective localities. Whereas, hooping, or whooping cough, appears to be an assemblage of all the above, commencing with catarrh, and ending in whoop.

The treatment accordingly, in all these diseases, has certain indications in common, requiring to be fulfilled with more or less energy, according to the seat of the disease and the severity of the symptoms. These indications are, to subdue inflammatory action; allay irritation; mitigate the cough; and facilitate expectoration.

In ordinary catarrh, "little more is required than confinement within doors and abstinence for a few days, together with a liberal use of diluent or cooling drinks to promote perspiration." "Should the febrile symptoms run high, should the constriction of the chest be considerable, and especially if the disease show a tendency to pass into pneumonia or pleurisy, blood-letting may be had recourse to with safety and advantage, to an extent regulated by the severity of the attack, and the constitution of the patient."

Gentle cooling laxatives, and antimonial diaphoretics; with a blister perhaps to the chest where its constriction is painful; and the pediluvium every night; will subdue the violence of the attack, and the irritability consequent upon it will be found to yield very generally to small doses of Dover's powder.

In influenza, blood-letting has never been employed to any great extent, and, indeed, "in some instances it has been found inadmissible, from the great and sudden prostration of strength observed to follow its use."

"As there is perhaps no disease, the treatment of which requires greater caution and circumspection than *Bronchitis*, it would be well for the student to fix firmly in his mind, the principles upon which it ought to be conducted. It is true that the disease in all its forms is one of inflammation, and that the activity of the treatment must be to a certain extent regulated by its intensity. *It must however, be borne in mind that it is inflammation of a mucous membrane, over which depleting* measures exert a very partial control; that in spite of every remedy such inflammation will generally continue an indefinite length of time, although in a subdued degree; that the inflammation as long as it lasts, is attended with a morbid secretion which obstructs the bronchi and seriously interferes with the functions of the lungs; and that, in order to free the bronchial tubes from the excessive secretion, the patient has to pass through a longer or shorter period of great exertion, distress, and want of repose. From this it follows, that all remedies calculated greatly to impair the patient's strength, should be employed with the greatest reserve, and that even in the most acute attacks the period of active depletion is likely to be of very short duration." 196.

"As there is some reason for believing that the peculiar inflammatory product which proves so great a source of danger, (in *croup*) results from the kind, rather than from the mere intensity of the inflammation, we ought, in regard to depletion, to be guided more by the degree of febrile excitement present and by the age and constitutional powers of the patient, than by the mere obstruction to the breathing." 212.

"To be successful, the treatment of acute laryngitis must be prompt and active. As the disease is one of inflammation accompanied with a remarkable tendency to spasm about the glottis, our object should be, to subdue the inflammation by antiphlogistic measures; and allay or prevent the spasm by the simultaneous employment of anodynes, and by the local application of warmth and moisture. If there be any very considerable febrile disturbance, the necessity of general blood-letting is sufficiently apparent; and even if not, should the local affection prove severe, and provided the patient be of good constitution, it ought never to be neglected in the first instance. The patient may be bled to such an extent as to induce a tendency to syncope; immediately after which, two or three grains of calomel, with a grain of opium and a quarter of a grain of tartar emetic, may be given, and repeated every three or four hours, till the constitution becomes affected by it. After general bleeding, 6, 8, 10 or 20 leeches, according to the age of the patient and particular circumstances of the case, may be applied to the external throat, followed either by a large warm poultice, or assiduous sponging with very hot water, &c." 205.

"When consulted very early, even in slight cases, (of *hooping-cough*), it will always be prudent and safe on the part of the practitioner, to adopt antiphlogistic measures, with a view to counteract the tendency to bronchitic and pneumonic inflammation." 220.

Of the other remedies to be employed in these different yet similar diseases, a brief enumeration will suffice:—gentle laxatives rather than drastic purgatives; saline and antimonial diaphoretics; counter-irritants; where considerable irritation is a concomitant, anodynes; and where opiates are inadmissible, camphor and hyoscyamus prove generally efficacious.

As in inflammations of the mucous membrane lining the air-passages, so, in inflammations of the same membrane where it is prolonged over the interior of the alimentary canal, &c. the indications of treatment are:—to subdue inflammation, to allay irritation,—and these will be effected here, as elsewhere, by diminishing the activity of the circulation in the part affected, either by moderate general blood-letting; free topical bleeding; counter-irritants; gentle evacuants rather than active purgatives; diaphoretics, and nauseating ptisans—with the use of the warm-bath, and the cautious administration of anodynes. In acute gastritis, and in acute enteritis, laxative enemata must be had recourse to, and total abstinence from food enjoined. As the former disease subsides, a few grains of carbonate of magnesia, with a few drops of vinum opii, or of the hydrocyanic acid, will allay the irritability of the organ.

In *Enteritis*, "the irritability of the bowels may sometimes be allayed by injecting about three parts of a pint of thin tepid gruel or barley water into the rectum; or still more certainly, by throwing up two or three ozs. of thin starch with fifteen to twenty minims of laudanum, or half an ounce of syrup of poppies," 486.

In *Cystitis*:—"The indications of treatment are, first, to remove if possible the exciting cause, if any exist at the time; secondly, to subdue the inflammation; thirdly, to allay the irritability of the bladder, so as to enable the patient to desist from frequent straining; and lastly, to remove any remaining irritation of the mucous membrane of the urinary passages generally." 557.

II. INFLAMMATIONS OF THE SEROUS MEMBRANES.

The natural division of these is according to the cavities which they form —to wit, the cerebral, the thoracic, the abdominal, and the articular.

The first will embrace phrenitis and arachnitis; the second, pleuritis and pericarditis; and the third, peritonitis, sero-hepatitis, sero-splenitis, and sero-enteritis.

For the descriptions and pathology of these diseases we must again refer to the work itself—our object is to lay before our readers the principles of practice in their treatment.

In *Phrenitis* and *Arachnitis*, the prompter the measures, and the bolder the treatment, the more successful will be the issue; here, delays are indeed dangerous, whatever is done must be done quickly. Bleeding to syncope—repeated—and again repeated. Leeches. Cupping. A blister to the nape of the neck. Ice or evaporating lotions to the scalp, which should be *shaved* in the very first instance; mercurial inunction rubbed well in, and even used as a dressing for the blister; and calomel pushed by small and frequent doses, to affect the constitution and produce ptyalism—are the leading points of practice in a set of diseases which, if we do not nip them in the bud, will speedily kill our patients.

In *Pleuritis* again, "the treatment is extremely simple; the most successful practice consisting in active depletion and a free use of mercury, so as to produce its specific effects upon the system." 274.

In *Pericarditis*:—"The indications are, to put a stop to the inflammation, and to prevent or arrest effusion and consequent adhesion. These objects are to be accomplished by general and local depletion, and by speedily inducing mercurial action on the system." 325.

In *Peritonitis*:—"The chief part of the treatment consists in general and local depletion, and as speedily as possible bringing the system under the influence of mercury." 427.

And so on, in *every* case of an inflamed serous membrane. Attention to these two principles will simplify the study of inflammatory diseases whether in books, or far better, at the bed-side, and very materially simplify their treatment. In inflammatory affections of the serous membranes, mercury is indicated; blood-letting, general and topical, is indispensable. In inflammatory affections of the mucous membranes, general blood-letting and mercury both, are contra-indicated—topical blood-letting is mainly admissible—antimony in some is essential to success.

We come now to notice, in the last place, a third group of inflammatory diseases, viz.:—

III. INFLAMMATIONS OF THE PARENCHYMA OF ORGANS.

Under this head are included, cerebritis, pneumonia, phthisis, carditis, hepatitis, splenitis, nephritis, rheumatism and gout.

In *Cerebritis*, the diagnosis is most obscure, and if not made out at the beginning, the error is almost irreparable; the prognosis is most unfavourable, and unless the treatment be most active from the commencement, the case will prove hopeless. Depletion and counter-irritation, are the principal means of subduing the morbid action. The lowest diet and the utmost quiet are indispensable.

In *Pneumonia*, particularly in its truly simple form, the diagnosis is not unattended with difficulty, even to the stethoscopist, "from the absence of those functional signs which he has been taught to regard as characteristic of the least complicated form of the complaint." And to those who are not in the habit of employing the stethoscope the difficulty is increased, from either the very slight degree in which cough or expectoration is present, or their total absence. Upon one diagnostic symptom our authors must be suffered to speak for themselves, as it were impossible for any others to speak better than they do:—

"Of all the symptoms of pneumonia, the most constant and conclusive in a diagnostic point of view is a pungent heat of the surface; by this symptom alone the first stage of pneumonia may in most instances be readily recognized; by this symptom alone pneumonia has been repeatedly pronounced to exist, before asking a single question, or making the slightest stethoscopic examination of the chest. The presence of this symptom will seldom mislead even in the most complicated forms of inflammation within the chest. It is by no means contended that it is necessarily present at some period of every case, although that is not improbable; but it may be safely affirmed that when inflammation is confined to the chest, however varied may be the tissues involved in the inflammatory process, provided this symptom be present, pneumonia may be confidently pronounced to form a part in nineteen cases out of twenty, and perhaps in a larger proportion. A similar pungent heat of the surface is now and then observed in certain forms of renal dropsy; more frequently in continued fever, especially in children; and still more commonly in the eruptive fevers of the exanthemata and erysipelas; and as such cases may supervene upon already existing disease within the chest, the fact ought to be carefully remembered." 241-2.

"The treatment must be purely and promptly antiphlogistic." Bleeding to syncope, and mercury to ptyalism, are recommended by one class of practitioners; the antimonial or contra-stimulant treatment by another. In proportion as the seat of the disease is accurately defined to be either the substance or the lining membrane of the lungs, the indication will be determinate whether the mercurial or the antimonial should be the treatment employed.

We have no room for entering upon the subject of *Phthisis* here. To do justice to the very valuable practical remarks of the authors, would require nearly the whole of the space allotted to the present article. Although peculiarly an English disease, it has baffled every English practitioner, and even in this our day continues to be mistaken in its incipient, and misconducted in its subsequent stages. Indeed, it is only a few weeks since our attention was called to a case where a practitioner who enjoys to a considerable extent the confidence of the public in his own neighbourhood, has mistaken the disease altogether—pronounced the colliquative sweats accompanying it salutary; and actually poured in medicine with a view to encourage them, until the fears of the family were roused by the *originality* of the practice, for other members of it had passed through the disease to their graves—and another practitioner was called in, to behold the victim die.

Of the treatment of phthisis, all that can be said is well said in the present volume.

"Little as we can place confidence in medicine, and impossible as it is to speak of remedies as calculated to cure the advanced disease, it is pleasing to feel persuaded that when our preventive means have failed, or when they have been too long neglected and the disease has apparently begun, we can often retard its progress, and occasionally have reason to believe that a cure has been effected." 307.

In *Hepatitis*, the characteristic feature of inflammation attacking the parenchyma of organs, obscurity, is present to render difficult the diagnosis. The importance of a correct diagnosis in order to a prognosis which time will verify, must have been felt by every practitioner of even moderate experience. The treatment is obvious—it should be depletory, counter-irritant, mercurial, in a word—antiphlogistic; and "should be marked by all the energy which destructive action, set up in one of the most important organs of the body, must necessarily demand."

In *Splenitis*, the diagnosis is almost always obscure, the prognosis generally favourable—the indication of treatment the same as in other diseases of the same order. Antiphlogistic remedies, promptly and freely employed, "and perhaps a somewhat more cautious use of mercurials than in cases of membranous inflammation," will seldom fail to subdue the violence of the attack, and prepare the way for the administration of tonics to sustain the sinking, or restore the diminished strength of body which follows the attack.

> *Nephritis*, "as a purely idiopathic disease, is less frequently met with than most of the other phlegmasiæ, but is of frequent occurrence as an effect of certain acrid substances taken into the stomach, and of calculous matter formed and lodged in the interior of the organ." p. 535.

The well-earned reputation of Dr. Bright, as an accurate and original observer of certain morbid changes in the structure of the kidney, and of certain previously unsuspected connections between diseases of that organ, and an important series of affections, its influence upon which had been previously unsuspected; is amply sustained by the disquisition in the present volume, on inflammation of the above viscus.

The obscurity of its diagnosis; its effect upon the nervous system; and its morbid influence upon the cerebrum itself, are graphically described.

As respects the prognosis, he well remarks that:—

> "*The least alarming often proves the most dangerous form of the disorder;* and hence, when it makes its approach insidiously, with little or perhaps no local pain whatever, but with symptoms of oppression of the brain, it is at all times attended with extreme danger, and will, for the most part, be found to prove fatal; and, indeed, whatever may be the form of the complaint, provided the brain become involved, the most serious apprehensions ought at all times to be entertained as to the result; especially if the secretion of urine be not only diminished, but altogether suppressed." p. 546.

The treatment indicated is depletory, and more or less mercurial.

If we were asked to point out the modification called for in the treatment of inflammation when, instead of attacking the membranous tissue, it invades the parenchyma of an organ, we should refer to the tendency which there always is, in the latter case, to a termination in suppuration—as limiting the use both of the lancet and of mercury. And we may say, in conclusion, of the three groups into which we have gathered the inflammations treated of in the present volume:—That—in inflammations of the mucous membranes, the termination is generally in resolution—in those of the serous membranes, in adhesion—in those of the parenchymata, in suppuration. The diagnosis of the three sets of diseases is least difficult in the second, more so in the first—and most of all, in the third. The prognosis is most generally favourable in the first—not so favourable in the second—and still less so in the third. The practice is most decidedly antiphlogistic and depletory in the second—more exclusively antimonial and antistimulant in the first—and in the third partakes of both, without bearing the same amount of either.

We have prolonged this review to such an extent already, as to preclude us from even touching upon Rheumatism and Gout, with the descriptions of which, the present volume concludes.

In bidding its authors a present farewell, we do so with a sincere desire that they will not unnecessarily protract the period which is to elapse before we meet them again in the succeeding portion of their very agreeable work.

That that work will prove a valuable companion, and of real assistance to their numerous pupils, there can be no doubt. That it will prove an acquisition to the library of every practical physician in the land, we likewise believe, or we would not, as we do, heartily recommend it to the attentive perusal of every one of our own readers.

The style in which it is written, without intending a pun upon the names of the writers, is truly chaste and Addisonian—and the practical ideas which that style is employed to convey, are all *bright* and luminous. For ourselves we can only say that we have never tired in its perusal—and rise from its pages with increased respect for its authors.

THE VENEREAL.

The Modern Treatment of Syphilitic Diseases, both Primary and Secondary: comprising an Account of the New Remedies, with numerous Formulæ for their Preparation, and Mode of Administration. By *Langston Parker*, Member of the Royal College of Surgeons, Fellow of the Royal Medical and Chirurgical Society of London, and Lecturer on Anatomy and Physiology in the Birmingham Royal School of Medicine and Surgery, &c. &c. London, Churchill, 12mo. pp. 158.

One would suppose that all the world was poxed, so many works on it does the press teem with, so many lectures on it are the weekly journals infected with. We wish we could say that all the works and all the lectures display much acquaintance with it. We suspect that it is on—

> "The value of a thing
> Is just what it will bring,"

principle, that syphilis is much in vogue at present. Be that as it may, we must notice these productions as they are produced, and Mr. Parker's happens to lie just now before us.

Mr. Parker informs us in his Preface:—

"The modern researches on Syphilis, its complications and consequences, and the improved modes of practice which have been the result of such investigations in this country, and on the continent, have, as yet, been made known to the public only in detached portions, and that chiefly, if not altogether, through the medium of the periodical medical literature of the day.

Much attention to the subject has impressed me with a conviction, that a work containing the *result* of modern experience, would not be unacceptable to the profession; whilst, to the junior part of it, such a publication might be exceedingly useful.

Usefulness, and not originality, has been the great object I have consulted in composing the present work. It contains little, and I believe no theoretical matter, except perhaps the account of Mons. Ricord's researches 'On Inoculation,' in reference to Syphilis. I originally intended, and to the best of my ability I have carried out my intention, that it should contain only the result of generally received modern experience on the treatment of Syphilitic Diseases.

I have adopted no party in the question; as will be perceived by a perusal of the work, not agreeing exclusively with the mercurialists, on the one hand, or condemning the remedy *in toto* on the other, in accordance with the principles of the physiologic school, or the partisans of the simple treatment. I have endeavoured to hold out to the confidence of the reader those plans of treatment, and those only which are calculated to cure his patient the most speedily and with the greatest safety."

The work is, in point of fact, a compilation, and that mainly from French writers. We must therefore be excused from offering any thing like an analysis of it. We may content ourselves with stating that it consists of sixteen sections, and that they appropriate to themselves the following matters. Section 1, of the simple treatment of syphilitic diseases—of the simple constitutional treatment of syphilis—of the simple, local, or surgical treatment of syphilis—of the mercurial treatment of syphilitic diseases; section 2, of particular preparations of mercury, and their mode of employment—mercurial fumigations, the proto-chloride of mercury, the bichloride of mercury, the proto-ioduret of mercury, the cyanuret of mercury, the deuto-phosphate of mercury—section 3, on inoculation, as applied to the diagnosis, and treatment of syphilitic diseases—section 4, of the first class of syphilitic diseases—gonorrhœa, its varieties and consequences—of balanitis, gonorrhœa, symptoms, sympathies, varieties, consequences and terminations—treatment—of specific remedies—copaiba, particular forms for its exhibition—cubebs, particular forms for its exhibition—of mercury—of injections; section 5, of diseases which succeed to gonorrhœa in the male; section 6, of gonorrhœa in the female—of the second class of primary syphilitic diseases—ulcers, their varieties and consequences; section 7, of chancres of the urethra; section 8, of phagedænic primary venereal sores—the local treatment of phagedæna—of mercury—of the simple treatment of phagedæna—of bubo; section 9, of constitutional or secondary syphilis; section 10, of syphilitic diseases of the skin—of mercury—of the use of iodine and its preparations—sudorifics—the muriate of gold; section 11, of the particular forms of syphilitic diseases of the skin—syphilitic exanthemata, syphilitic squamæ, syphilitic vesiculæ, syphilitic pustulæ, syphilitic papulæ; section 12, of the syphilitic tubercula; section 13, of constitutional syphilitic ulcers—of vegetations; section 14, of the syphilitic testicle—section 15, of pains in the bones; section 16, of periostitis—of ostitis—of the operation for the relief of phimosis.

We shall pick out some formulæ and some facts, both mostly continental, and endeavour to consult the utile rather than the mirabile in our selection.

1. *Particular Preparations of Mercury.*

The Proto-Ioduret of Mercury.—MM. Cullerier, Biett, and several others, employ the proto-ioduret of mercury in preference to the bichloride, as more certain in its effects and less liable to decomposition. This preparation may be employed in primary syphilitic sores in strumous habits, but is chiefly resorted to in chronic affections and in those varieties of disease which have been described by authors as constitutional syphilis.

M. CULLERIER'S FORM FOR THE EMPLOYMENT OF THE PRO-IODURET OF MERCURY.

℞. Hydrargyri proto-ioduret, gr. xij.
Ext. v. Pulv. Opii, gr. vj
Gummi Guaiaci, ʒ j. M. ft. Pil. xxiv.
Capiat 1 nocte maneque.

POMMADE OF VAL DE GRACE.

℞. Hydrargyri proto-ioduret, ℈ j.
Adipis, ℥ j. M.

Employed in friction upon tumours and indolent buboes after all acute inflammatory symptoms have disappeared.

Mr. Parker goes on to inform us :—

It is principally, says M. Cullerier, in secondary syphilis that the proto-ioduret of mercury is administered with success. Its effects are principally evident in secondary ulceration of the mucous membrane, cutaneous tubercles, exostoses, and chronic affections of the joints, where the other preparations of mercury have had little effect.

The deuto-ioduret of mercury may be employed in friction or in pills, in the same manner as the proto-ioduret: it is stronger and more stimulating, and consequently should be administered in smaller doses. Both these remedies may be advantageously employed in all cases of secondary syphilis, with more certainty and less risk than the deuto-chloride; also in indolent buboes, in obstinate ulcers with hardened base and edges. In all instances they must be guarded by opium, and the patient must be submitted to a strict dietetic and antiphlogistic regimen during their employ. The dose of the deuto-ioduret from $\frac{1}{16}$ of a grain to a grain.

We would observe that recommendations to employ these mercurial preparations in what are called "secondary symptoms" must be carefully scrutinised and cautiously acted on. Four-fifths of "inveterate secondary symptoms" are not secondary symptoms at all. They are cachectic symptoms mostly due to mercury, and aggravated by its further use. And the advice to keep patients on antiphlogistic regimen during the exhibition of medicines of this class is to be received cum grano salis. As a general rule low living and depletory treatment do not answer during a course of mercury. Salivation is more likely to occur, the health is more liable to suffer, and cachectic symptoms more apt to be developed or increased. Certainly it is not in the *treatment* of disease, be it what it may, that we would take Continental practitioners as guides.

The Cyanuret of Mercury.—The following account and formulæ are given us by Mr. Parker.

The cyanuret of mercury is now frequently employed in preference to the bichloride, and for the following reasons. It is more soluble and not so liable to decomposition, acts more quickly, and does not occasion those pains in the stomach and bowels that so frequently accompany the prolonged administration of the bichloride. According to the researches of M. Parent, the cyanuret of mercury is not decomposed by either acids or alkalis, nor by decoctions containing azotised principles or gallic acid.

The cyanuret of mercury may be administered internally in pills, or in solution, and used externally in form of pommade or ointment. M. Cullerier employs the cyanuret in primary syphilis. Externally it is an extremely useful application to various forms of herpes, particularly that form termed by Alibert, "herpes squamosus," the violent itching and irritation of which it allays. It may be employed externally also as a dressing to indolent syphilitic ulcers, and scirrhous tubercles, or as a gargle in ulcerations of the throat. The dose of the cyanuret is from $\frac{1}{16}$ of a grain to a grain.

GARGLE OF THE CYANURET OF MERCURY.

℞. Hydrargyri Cyanuret. gr. x.
Infus. Lini. Comp., ℔ j. M.

PILLS OF THE CYANURET OF MERCURY.

℞. Hydrargyri Cyanuret., gr. viij.
Pulv. Opii, gr. xvj.
Ext. Guaiaci, ʒij. M. ft. Pil. lxiv. Capt. 1 ter die.

OINTMENT OF THE CYANURET OF MERCURY.

℞. Hydrargyri Cyanuret, gr. xij.
Adipis, ℥j. M. ft. Unguentum.

SOLUTION OF THE CYANURET OF MERCURY.

℞. Hydrarg. Cyanuret. gr. vj. ad gr. x.
Aquæ, ℔ j. M.

Half an ounce for a dose, administered in a mucilaginous vehicle or with the addition of sugar in form of syrup.

M. PARENT'S CYANURETTED PILLS.

℞. Hydrargyri Cyanuret. gr. xxiv.
Ammoniæ Muriatis, ʒiij.
Guaici Gummi, ℥iij.
Ext. Aconiti, ʒiij.
Ol. Anisi, ♏. xxiv. M. Mucilagini, q. s. ft. Pil. 400.

One or two twice or three times a day, the dose gradually increased. Each pill contains about $\frac{1}{16}$ of a grain of the cyanuret. These pills are a substitute for the bichloride of mercury in many forms of secondary syphilis.

ANOTHER FORM OF M. PARENT.

℞. Hydrarg. Cyanuret., gr. vj.
Opii, gr. xij.
Micæ panis, q. s. ft. Pil. xcvj.

Each pill contains $\frac{1}{16}$ of a grain of the cyanuret adapted to forms of primary syphilis. The dose of one or two pills twice a day in the commencement, and gradually increased.

Deuto-Phosphate of Mercury.—The deuto-phosphate of mercury is employed in Italy, more paticularly at Naples, in the treatment of venereal affections in preference to the other salts of this metal. It may be given internally in pills or in solution in the same doses as the bichloride. Employed by friction upon indolent buboes or exostoses, it is said to be preferable to all other forms of the remedy. It is of use also as a dressing to indolent chancres.

OINTMENT OF THE DEUTO-PHOSPHATE OF MERCURY.

℞. Hydrargyri deuto-phosphatis, gr. viij.
Adipis, ℥j. M. ft. Unguent.

In cases of indolent bubo, a few grains are rubbed daily upon the tumour, the frictions also are to be made upon the groin of the opposite side. Our experience in the use of this remedy is drawn chiefly from the practice of Fiore and the Neapolitan surgeons, it is scarcely used in France, although occasionally employed in Germany.

We shall here introduce some of the remedies employed for secondary symptoms.

Iodine and its Preparations.—"These remedies are employed largely in the treatment of the secondary and tertiary symptoms of constitutional syphilis. Iodine of itself is a powerful antisyphilitic, but, unless in a state of combination with mercury, is inadmissible in the treatment of the simple primary forms of disease. It may be employed in the cutaneous diseases of constitutional syphilis with great advantage, and, though a remedy not so active as mercury, is particularly indicated in constitutional syphilis, where the primary forms of disease have been treated by full courses of the former medicine. Cullerier uses the following form for its administration.

℞. Iodinii, gr. j.
Potassæ Iodid. gr. ij. ad iv.
Aquæ, ℥j. M.

This may be put into a pint or quart of any vehicle; as the decoction of sarsaparilla, &c. and given at intervals during the day. The dose of the iodine may be increased to two grains in the day, and that of the iodide of potass to six, or ten. The preparations of iodine are chiefly of use in constitutional syphilis, in scrofulous or delicate patients, and in glandular enlargements of syphilitic character, which have resisted the action of mercurials.

M. Ricord employs the iodide of potassium chiefly in those forms of constitutional syphilis which he has termed tertiary. These are tubercles of the skin and mucous membranes, which, in the venereal pathology of this surgeon, form the link connecting the secondary with the tertiary forms of disease, nocturnal pains, periostosis, ostitis, caries, and tumours of the bones: in all these forms of disease, the iodide of potassium is considered by Ricord as the remedy 'par excellence.' He does not rely upon it so much in the secondary affections of the skin, unless used in combination with the iodurets of mercury. The dose of the iodide of potassium, in the commencement, should be ten grains in the day, dissolved in an ounce of distilled water, and administered at intervals in any convenient vehicle; every two or three days the dose may be increased, observing its effects: Ricord increases it ten grains every three days; he has carried it as far as one hundred and forty grains in the day without any ill effect. The iodide of potassium accelerates the pulse, and occasions a slight heat in the stomach; generally, however, if the stomach be free from disease or irritation, it materially improves the digestive powers. If given in an overdose, the heat in the stomach amounts to pain, and may be followed by inflammation; it occasions also when thus employed, pricking or irritation of the skin, followed by a pustular eruption; sometimes the head is affected, and the quantity of urine enormously increased. Ricord mentions a case in which this took place to the extent of forty or fifty pints in the day, it was not found, on analysis, to contain sugar. We shall return to the special indication for the employment of this remedy when speaking of the particular forms of constitutional syphilis." 129.

Certainly, so far as our experience goes, iodine and its preparations are not worthy of any confidence in primary syphilis; and are not deserving of much in the true secondary symptoms. But in the mixed symptoms of cachexia they frequently act almost mavellously. In the rupial or ecthymatous ulcerations of the skin, in the diseases of the bones that sometimes *may* result from syphilis, and often *do* result from mercury, the iodide of potassium is highly beneficial. Yet it seems inconsistent and uncertain in its operation; for, in one case, it will remove the symptoms rapidly and completely, and in another, apparently similar, it will be of only temporary benefit. Nay, in some cases, we have thought that it was in the long run, mischievous, relieving the patient for the time, but rather sapping his constitution eventually.

Of the enormous doses prescribed by M. Ricord we can only say that we should not like to venture on their use. We have never seen anything to prove the utility of excessive doses, and we are sure that they are not unaccompanied with hazard. If ten or fifteen grains a day do no good, more will probably do no good neither, and may, perhaps, do harm. Even moderate doses give rise at times to irritation of the gastro-intestinal mucous membrane.

The Muriate of Gold.—"This remedy is particularly useful in the vegetating forms of the syphilides. It is prescribed in the form of ointment; from six to sixteen grains of the salt to an ounce of lard. Biett prefers it to every other remedy, as a local application to syphilitic vegetations. Internally it may be exhibited under the same forms, and in the same doses as the bichloride of mercury, its internal use is however uncertain." 132.

We have tried the muriate of gold internally in several cases, but we cannot say that we ever found it of service.

On the whole, from what we have seen, we believe that, with the exception of the iodide of potassium, these new preparations will disappoint practitioners. The great secret of treating syphilis well consists not in the number of tools, but in understanding the handling of a few good ones.

Inoculation of Syphilitic Diseases.—There cannot be a question of the value of inoculation, did circumstances allow of its unexceptionable employment. Inoculation would go far towards settling many litigated questions. M. Ricord has lately experimented very *liberally* with inoculation, and Mr. Parker presents, in a very abridged form, his conclusions. We shall insert the principal here.

> " M. Ricord establishes, in the first place, that a chancre, wherever it may be seated, is produced by a specific matter which is secreted by a chancre only, which matter produces a similar disease whenever placed in circumstances favorable to contagion.
>
> This specific matter is only secreted from the surface of a chancre during its first stage, that is, during the period of ulceration, or when the sore is indolent or stationary. At these periods only does a chancre secrete a specific matter capable of producing a similar disease by inoculation. When the sore begins to heal and a process of reparation has commenced, it is merely a simple ulcer, does not furnish a specific secretion, and is not capable of propagation by inoculation.*
>
> If matter be taken from a chancre during the period of ulceration, and introduced under the epidermis by means of a lancet, it produces the following effects. During the first four-and-twenty hours the puncture becomes more or less inflamed; from the second to the third day it is accompanied with slight tumefaction, and presents the appearance of a small papula surrounded with red areola; from the third to the fourth day the disease assumes a vesicular form, the epidermis being raised by a fluid more or less opaque, presenting at its apex a small dark point; from the fourth to the fifth day the contents of the vesicle become purulent, the apex of the pustule depressed, resembling very much the pustule of small-pox. At this period the areola, which had progressively increased, begins to diminish or altogether disappears, particularly if the disease does not increase: after the fifth day, however, the subjacent and surrounding tissues, which hithero had undergone little or no modification or were merely slightly œdematous, become indurated by the extravasation of a plastic lymph, which communicates to the touch the resistance and elasticity of cartilage. After the sixth day the contents of the pustule thicken, the pustule itself shrivels up, and is covered with crusts. These enlarge towards their base, and forming by successive strata, at length assume the form of a truncated cone with a depressed apex. If these crusts are detached, or if they fall off, we find under them an ulcer with the hard base of which we have spoken, extending through the whole thickness of the skin. The surface of this ulcer, of a deep red colour, is foul, covered with a thick adhesive pultaceous matter, almost like a false membrane, which cannot be removed by any attempt to clean the sore. The edges of the ulceration at this period appear as though it had been dug out from the surrounding parts by a sharp circular instrument. The immediate vicinity of the sore is surrounded by a red, dark, or livid margin, more elevated than the surrounding parts.
>
> M. Ricord further establishes that chancre in its commencement is purely a local disease; that constitutional or secondary affections can only take place after this antecedent; that they do not occur in all cases, and only after the lapse of a certain period of time.
>
> Whatever may be the varieties and complications which subsequently follow or accompany the inoculated chancre, the progress of the latter is in all instances

---

* " It would appear that these views were likewise entertained by Dr. Wallace, who divides chancre into two distinct stages or phases, the first one of ulceration, the second one of reparation; he particularly insists upon the impropriety and danger of administering mercury during the first stage, that of ulceration."

such as we have described it. The pustular form of incipient chancre is only wanting when the parts to which the virus is applied are destitute of epidermis or epithelium, and it is only preceded by phlegmonoid inflammation when the matter has been introduced into the subcutaneous cellular tissue, or into the lymphatic system.

The ulcerations completely destroyed or arrested on the third, fourth, or fifth day from the application of poison are not liable to secondary inflammation. It is not before the fifth day that the induration of chancres commonly commences, and it is the indurated chancre that is most frequently followed by secondary symptoms; this induration seems to indicate that the affection has become in some measure already constitutional; as long as there is no induration we may suppose the disease to be merely local.

The varied appearance which primary venereal sores presents (says M. Ricord) has given rise to arguments against the identity of the venereal virus, and has led to the promulgation of the theory of a plurality of venereal poisons. Inoculation, however, sets this matter at rest, for whatever may be the actual character of the sore from which we take the pus, provided it be taken during the first stage of chancre, that of ulceration or indolence, we obtain by inoculation a regular pustule when the matter is introduced beneath the epidermis or epithelium; an ulcer when it is applied to a denuded surface; and an abscess when introduced into the cellular tissue, or into the lymphatic system.

The various characters of chancres or primary venereal sores, are due to circumstances which are foreign to the specific cause which produced them; these are principally the particular constitution of the patient, his mode of living, the influence of any antecedent or present disease with which he may happen to be affected, and not least the local treatment of the sore. It is from one or many of these circumstances that we see phagedenic ulcers in subjects who have contracted their disease from others affected with ulcers of the simplest character.

The first stage of chancre, i. e. of ulceration or indolence, is the only one during which the disease is susceptible of propagation by inoculation; the period of this stage is not limited, hence, M. Ricord has known primary venereal sores capable of propagation after having continued eighteen months." 34.

Barbarous Operation for Phymosis.—Mr. Parker gives, and apparently approvingly, a full account of M. Ricord's operation for phymosis. Here it is.

"Permanent phimosis, with excessive length of the prepuce, demands the operation of circumcision, unless, (says M. Ricord,) we remedy one deformity by the production of another, in performing the old operation of merely slitting up the prepuce with the knife. If there exist between the glans and prepuce recent and not very firm adhesions, these should be removed by dissection; when the adhesions are firm, it will be necessary only to circumcise as much of the prepuce as may leave free the meatus urinarius; vegetations should be removed with the redundant portion of the prepuce. The old operation, which consists in merely slitting up the prepuce, and removing the angles from the divided prepuce on either side, is liable to many objections, the chief of which is the deformity which the operation occasions; when this plan is deemed advisable, as it may be in persons who have naturally a short prepuce, M. Ricord removes a portion in the shape of the letter V, the apex which corresponds to the base of the glans, the base or open part being taken from the body of the prepuce.

In most cases M. Ricord prefers the operation of circumcision, which is to be performed in the following manner. The penis hanging in a relaxed state, a line is to be traced round it with ink, two lines in front of the base of the glans; this being done, the prepuce is to be drawn forwards, and fixed between the blades of a pair of dressing forceps, which are to be placed in front of the glans, and immediately behind the ink lines; the forceps are to be held perpendicularly and not transversely, and fixed in this position by an assistant. The operator then seizes the prepuce with his left hand and with a scalpel or bistoury, held in his right, cuts off that part of the prepuce, placed before the forceps, the latter serving as a guide for the direction of his incision. That portion of the mucous membrane, which has not been drawn forwards with the skin of the prepuce, is afterwards to be divided, with the view of preventing a secondary phimosis, or paraphimosis. The latter part of the operation is to be performed by dividing the mucous membrane with the scissors upon the dorsal aspect of the glans, and as far as its base; the two flaps thus made are to be dissected off on either side to the frenum, and removed with the latter by one stroke of the knife or scissors.

Some hemorrhage, from the dorsal artery of the penis, that of the frenum, or other small branches demands occasionally torsion of the arteries, or the use of the ligature. The penis should be covered with compresses soaked in cold water or the lead lotion, with the view of keeping down inflammation, and preventing erections. With the latter view also opiates with camphor should be administered." 157.

God help the penises that fall under M. Ricord's knife. He carves them as if he were cutting out a pattern of a penis, instead of a living, retiring, sensitive penis itself. One would think that penises were not made of flesh, so penal are his operations. This may do very well for a Parisian Hospital, but we can tell Mr. Parker that English gentlemen don't like their concerns so interfered with. What the hard-handed people of Birmingham may submit to, we can't say, but we know that in London such bloody-mindedness would not be put up with. If a man has a phymosis, he does not, in most instances have it cut for beauty's sake, but because the phymosis is an inconvenience. He wants as little of the knife as may be, and any surgeon who begins to slash so unmercifully as M. Ricord and Mr. Parker, will be *cut* himself, he may rely upon it.

We have operated, we will venture to say, on more phymoses than Mr. Parker, and we find the old plan answer well enough. The superabundant skin is, in most instances, greatly reduced ; and after a year or two, it would hardly be known that any operation had ever been performed. Two or three times we have resorted to circumcision, but we have always found the patient complain, and that very bitterly, of the severity of the proceeding. Mr. Parker, we suspect, will find when he has much practice on private patients in this country, that a little *tenu* with the knife becomes requisite.

Bubo.—We need scarcely say that this may be simple, or "sympathetic," or it may be specific. Ricord, says Mr. Parker, has instituted the test of inoculation as a means of differential diagnosis between the two. The virulent bubo—that arising from the absorption of pus from a chancre, is a disease precisely similar to chancre, differing from it only in its seat, and in the anatomical organization of the parts in which it is seated. The true venereal bubo is the only one which gives a characteristic pustule by inoculation; and is the only certain means of enabling us to determine whether a bubo is venereal or sympathetic. In cases where bubo occurs as a primary symptom, this test becomes of the utmost importance, since by its results alone can we be led to frame a rational plan of treatment.

M. Ricord maintains that those only which furnish the characteristic pustule of chancre by inoculation are capable of being followed by secondary symptoms. Those from which no pustule can be obtained by inoculation are simply inflammatory, and must be treated on general principles.

With reference to the test of inoculation itself, some degree of difference of opinion exists, although M. Ricord states that the reason of this is, that the experiments have not been made in a proper manner.—On this point we consider this author's opinions worthy of attention. Whenever inflammation and suppuration of the cellular tissue, or lymphatic glands of the groin is owing to any other cause than the occurrence of chancre, the pus secreted furnishes no result from inoculation, at whatever periods and under whatever circumstances the test may be made. Neither does it follow, of necessity, that buboes succeeding to true chancres will furnish a specific pus; and consequently, by inoculation, a characteristic pustule. That this may occur it is necessary that the bubo shall not merely be owing to a simple sympathetic inflammation, but that actual absorption of the specific matter of the chancre shall have taken place. When absorption of the matter from a chancre on the genitals takes place, it is generally confined to the superficial glands of the groin; and most frequently the syphilitic poison is conveyed to one gland only, although many of the glands in the immediate vicinity of the latter, both superficial and deep seated, are inflamed, and suppurate at the same time, so that the matter taken from one gland shall be purely syphilitic, and give rise, by inoculation, to the characteristic pustule, whilst those in its immediate neighbourhood, and the cellular tissue, shall be affected by simple phlegmonoid inflammation, the pus from which shall, when tested by inoculation, give a negative result.

It may be very readily conceived, that the irritation produced by the passage of the syphilitic poison through a lymphatic vessel and ganglion may excite in the neighbouring organs an inflammation which is not specific, but merely phlegmonous, and this appears to be the true nature of the case. M. Ricord opened a bubo which had succeeded to a chancre, the pus from which produced no result by inoculation. In the centre of the abscess he discovered an enlarged lymphatic gland, presenting an evident fluctuation; this was punctured and tested by inoculation, the characteristic pustule of chancre was obtained.

It appears to us that the test of inoculation, even on M. Ricord's own shewing, (and we are far from taking all these facts upon trust,) is not worth much. It will scarce hold water after all. For *first*, we think that bubo should seldom suppurate at all—*secondly*, even though it be a bubo from a "chancre," it need not necessarily be specific—and *thirdly*, there are all the fallacies that may have waited on M. Ricord's experiments, and may wait on our own to be considered. Does M. Ricord mean to say that no secondary symptoms follow bubo from chancre, unless it will furnish the "test" of inoculation? How then does he account for those cases of secondary symptoms where there has been no bubo at all? If the virus can be absorbed without occasioning any inflammation of the gland, it can surely be absorbed without occasioning *specific* inflammation of the gland. The whole affair is a matter of moonshine. We should be sorry to pin our faith on M. Ricord. In a memoir he asserted that venereal ulcers deep in the vagina were quite common. We have examined a large number of women with the speculum, and we have *not* found such ulcers common; very far from it. We warn our readers to receive with great caution these positive assertions on the results of inoculation.

We turn to the treatment of bubo.

> "In the first stage of bubo, when the inflammatory symptoms are not marked, M. Ricord recommends rest and compression: this author has remarked that, in patients wearing trusses buboes are seldom if ever developed on the side where the pressure of the truss is acting, but on the opposite one; hence in the first stage of bubo, that of mere enlargement, without any acute inflammatory action or pain, a well regulated pressure, by means of an appropriate bandage or apparatus, is frequently successful in dispersing the tumour. This plan of treatment is above all useful in the bubon d'emblée. It must be associated with an antiphlogistic regimen, rest, and gentle aperients.
>
> The same plan of treatment may be followed in the treatment of the true syphilitic bubo, unattended by much pain or inflammation. In this stage, unless specially contra-indicated, mercury may be employed to assist the resolution of the tumour. The primary syphilitic bubo, may (says Dr. Wallace), in its first stage, be resolved in ninety-nine cases out of a hundred by mercury; if this medicine be used after the plan recommended for primary syphilis, and if its operation be assisted by rest, laxatives, abstinence, and cooling lotions. It is well, in reference to this opinion, to remark, that a vast number of those buboes which succeed to true chancres are sympathetic, that is, when they suppurate, they do not furnish or secrete a specific pus. Hence it must be evident that the general employment of mercury is, to say the least, unnecessary, except so far as it may be used with a view of controlling inflammatory action. Cullerier thinks that at this period, uncertain as we must be as to the true character of the bubo, that it should be treated as a pure and simple inflammation. When accompanied by chancre it is of vast importance to our success in the resolution of the bubo, to allay all pain or irritation which may exist in the sores themselves, and for this purpose the aqueous solution of opium before recommended will be found of great service.
>
> When the commencement of bubo is accompanied by much pain, tenderness on pressure, or heat of parts, the local abstraction of blood may be necessary, although I have not a high opinion of this measure in the resolution of bubo generally. It may even be necessary to bleed from the arm if the patient be plethoric, and the local disease associated with general excitement, or much symptomatic fever. In local bleedings thus employed, it will be found advantageous to apply a small number of leeches, from four to eight, or more, and wait till the oozing of blood begins to cease, then to apply another relay of leeches so as to keep up a constant draining of blood from the part for twelve or more hours. This form of bleeding, termed 'permanent,' is found to reduce the inflammation more certainly and speedily than the application of a large number of leeches at once. Two, three, or more relays of leeches may be thus employed, proportionate to the strength of the patient and the intensity of the local disease." 105.

We have tried compression, but we must confess that it disappointed us. First of all, it is not very easily regulated satisfactorily, being either too great or too little. Secondly, it has seemed to us in many instances to aggravate inflammation, rather than to disperse it. Compression has, in our hands, proved most serviceable in cases of indolent bubo, not of incipient bubo.

And of mercury we must say that it should be used more sparingly than Mr. Wallace advised. There are many cases, where the bubo displays little tendency to inflammation, in which mercury acts very well. But it will often happen that the bubo grows worse under its use. Perhaps the best rule is not to give it, if there is much inflammation; or to discontinue it if the bubo increases during its employment.

We agree with Mr. Parker that great leeching is seldom of great service. At the same time we would not, as some do, proscribe it altogether.

There cannot be a doubt of the occasional utility of blisters. Even when suppuration seems certain and extensive we have seen them cure bubo. But we have often seen them fail, and, though a good, we cannot but confess that they are an uncertain remedy; for they fail in cases, to all appearance, similar to those in which they answer. We *think* we have made out that they are not applicable to bubo much inflamed—nor to incipient bubo—nor to persons of a very irritable habit. But we would not speak very confidently upon any point, and, possibly, the best practical rule is this, to *try* a blister when the bubo is advancing in spite of other remedies. It may do great good, and it cannot do much harm. Even if the bubo suppurates it facilitates the pointing, and limits, we fancy, the extent of the abscess.

> "In the treatment of indolent bubo, in the commencement, M. Ricord has recourse to the discutient plasters with compression in the day time, and friction with the iodide of potassium, or mercurial ointment, in the evening, covering the part during the night with a poultice. If this has not a marked effect upon the enlargement in a few days, blisters with the bichloride of mercury on Malapert's plan are employed. Frictions with ointments composed of the proto-ioduret of mercury,* or compresses soaked in a dilute tincture of iodine,† are also very useful in the resolution of the chronic or indolent bubo." 110.

We have found the tincture of iodine serviceable in chronic bubo. It occasions a series of desquamations of the cuticle, which appears to promote the resolution of the gland. Sarsaparilla and the liquor potassæ, the latter in full doses, are of great utility.

> "The disease may terminate in two ways: the enlarged glands may pass on slowly to suppuration, or assume a form of induration of a scirrhous or scrofulous character. In the latter form, friction with croton oil, the tincture of iodine, or the emp. belladonnæ with the tartar emetic, may be used as local applications. Small issues may also be formed over the induration, by means of the caustic potash, or if the disease assume a purely scirrhous character, extirpation may become necessary."

We cannot say that we have seen buboes grow scirrhous. A pregnant instance this of the loose way in which "scirrhus" is viewed by continental surgeons. On all that relates to the malignant alterations, they are many years behind us. We need scarcely say that we do not patronise the extirpation of such glands, and we would caution Mr. Parker's readers and Mr. Parker himself against indulgence in it.

An early opening and a free opening is the best for the *bubonic* abcess. If the skin is very bad, the potassa fusa may be used, but we believe that with judicious management, the skin generally recovers itself after a proper opening with the knife.

---

* ℞. Hydrargyri proto-ioduret, ℈j.
Adipis, ℥j. M. ft. Unguent.

† ℞. Tinct. iodinii, ℥j.
Aquæ distillat, ℥ij. M. ft. Lotio.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

" Ore trahit quodcunque potest, atque addit acervo."

Notices of some New Works.

OBSERVATIONS ON THE DISORDER OF THE GENERAL HEALTH OF FEMALES, CALLED CHLOROSIS; SHEWING THE TRUE CAUSE TO BE ENTIRELY INDEPENDENT OF PECULIARITIES OF SEX. By *Samuel Fox*, Surgeon. pp. 132. London, S. Highley, Fleet-street.

MR. FOX informs us, in his Preface, that:—

" His chief endeavour has been to direct the reader's attention to the fact that, the disorder called CHLOROSIS, is NOT peculiar to the FEMALE SEX, and its occurrence limited to ANY particular period of life;—but that it is solely a complication of affections (ENTIRELY INDEPENDENT OF SEXUAL FORMATION) resulting from, and almost invariably attending a peculiar functional derangement of the liver and digestive economy: and further, that the Chlorotic appearance as it is termed, so often to be observed, not only in young females during the earlier years of growth and long before the period when puberty commences, but in those also of adult age, whether MARRIED or SINGLE, as well as in the young and delicate of the MALE SEX,—may be thus easily accounted for.

The Author sincerely hopes that, the simple mode of treatment, in accordance with his notions of the true cause of this disordered health (and from his long experience of its efficacy, he can confidently assert it to be by far the most successful,)—will induce those of his Medical Brethren who may adopt it, to throw aside the use of most, or all of those disgusting and too often dangerous medicines, called EMMENAGOGUES—which not only are constantly proving ineffectual for the object of their administration, but even tend in a great degree, to increase the real and only disease of the Chlorotic female."

We beg to observe that the capitals are Mr. Fox's own. Of course he best knows what is admirable and what is not; yet, on the principle that " good wine needs no bush," we think that both capitals and italics should be very sparingly used.

It appears that Mr. Fox was first induced to study Chlorosis with attention, from observing that youths and delicate males were, as well as females, subject to the disorder.

" From practical observation, I conceived the immediate source of the complaint in either sex, to be an obstruction in the capillary extremities of the biliary vessels, giving rise to chronic functional derangement of the liver. Acting on this belief, I discarded the idea of Chlorosis being an idiopathic, or primary disease,—and I adopted a mode of treatment in accordance with my view of the case, which, for upwards of thirty years, has never deceived me."

He goes on to observe:—

" Is not the retention of the menses the cause of the general ill-health of the female? I CONTEND THAT IT IS NOT—on the contrary, that the retention of this natural discharge is only one of many other symptoms and sympathetic affections, whose common origin is derangement of the biliary apparatus of the liver; and I also contend, that, in by far the greater proportion of cases, this functional derangement of the liver is primary, or idiopathic; and that the symptoms and affections called dyspepsia, are only the results of the sympathy existing between the liver and the other chylopoietic viscera. At the same time, I admit that there are also many instances to be met with, where an idiopathic dyspepsia was clearly the cause of the functional derangement of the liver. Yet, this, in no wise, alters or impairs my position of the liver being the immediate or proximate cause of the retention or suppression of the menses; and I can confidently assert that, unless the remedies be such as possess a salutary influence over the liver, a healthy return or appearance of the catamenia can never be expected.

A little farther on Mr. Fox takes even bolder ground. He does not scruple to say:—

"From the view which I have taken, and the due consideration which I have given to the various opinions on the subject under consideration; and notwithstanding all that has been advanced in support of my opinion, still I am fully convinced, that it is a matter of not the slightest consequence, whether the menstrual discharge be a SECRETION or NOT; and however peculiar it may be considered in relation to its characters and qualities, I notwithstanding dissent from these medical authorities, still further on the subject of menstruation, for I do not consider it to be requisite for the health of the human female, that she should ever MENSTRUATE AT ALL. By this, I mean that the periodical loss of a certain quantity of blood or a fluid from the uterus, is not required for the safety of the general health, and that the catamenial discharge is merely a local relief, or resolution of the vessels, (as Dr. Lococke very properly terms it) when they have become periodically and healthily congested."

From this it must be evident that Mr. Fox is no temporiser. His is no sickly, milk and water theory. He goes the whole hog against common opinion, and either he or it is quite right or wrong. Mr. Fox supports his position by the following argument:—

"If menstruation be necessary to the health of the female, as it is said to be by most medical writers, then it is absolutely necessary that all females should continue to menstruate during the whole period of life; no exception can be admissible—no female, according to this rule, can be without the function, and, at the same time, be healthy; for, if otherwise, the health would terminate at the middle period of life, when the cessation of the menses usually takes place; since she would then be deprived of that function which had been hitherto so essentially necessary for her health. Again, if menstruation is so important to the female during the early part of life, that is, from about the age of fourteen, at which it usually commences,—at a time, it must be remembered, when the constitutional faculties are in full vigour and energy,—and when one would think the female required no such aid to support her health.—How, then, does it happen that the function is no longer demanded for the security of her health at that period of her life, when the powers of her constitution are becoming not only debilitated, but, in fact, decayed; and when too she stands most in need of all the aid derivable from any source, or from the continuance of any function? This does not appear to me to be reasonable: for, menstruation is either important for the safety of the general health all through the course of life—or the health does not require it at any period of life."

There is this objection to such reasoning. Before the age of puberty and after the age of menstruation, the female constitution is different from what it is during the menstruating age. Prior to it the uterine system is not evolved—subsequent to it that system atrophies—and it may be reasonably thought that an evacuation requisite while it is subject to congestion is not requisite when it is not subject to congestion. Mr. Fox may reply that this favours the idea of such evacuation being needed for the uterus, but not for the health. The uterine system, however, is so linked with the general, during the period of fertility, that what affects the one will affect the other. And, after all, the question resolves itself into one of fact. If, (a female being in good health,) a cause acts directly on the uterus and disturbs its function, and if deranged health succeeds, that proves, so far as any thing in medicine is proved, that uterine disturbance breeds general. And who has not witnessed such a case?

Mr. Fox carries on the argument, or puts it in another shape:

"It is also true that, if the female is deprived of the ovaria, she is no longer capable of becoming impregnated, and she no longer menstruates. So also is it, with regard to the male sex. The testes are the agents for producing the fecundating fluid, consequently, a deprivation of them, renders him unable to impregnate the female. But, does the health of either party decline in consequence of their losing the faculty of pro-creating their species? The healthy eunuch is an answer as regards the male; and so far from the discontinuance of the monthly discharge in the female being prejudicial to her, it is even found that the health of those individuals, in whom the deprivation of the ovaria has been either congenital or chirurgical, is usually of the best. And, we know that animals of both sexes, under similar circumstances, thrive in a far greater proportion, than those possessed of the means of propagation."

But if that which, some way or another, produces the congestion, be absent, and consequently no congestion takes place, then the relief of the congestion may be well supposed to be unnecessary. This applies to either testes or ovaria. Persons may get on well enough without them, though it does not, therefore, follow that, while they are present, their functions can be interfered with harmlessly.

Mr. Fox, indeed, may be said to give up the point, for he states:—

"It appears to me that, the real cause of the disordered state of the system which so frequently supervenes, the sudden cessation of the menstrual discharge from cold or fright for example, is the already congested vessels of the uterus becoming rapidly engorged and producing, by that means, sympathetic nervous irritation throughout the whole system, and thus effecting a temporary change in the general health, in accordance to a well established law in pathology, that no local excitement or irritation can continue long without producing an effect on the system at large. A similar effect will be produced in either of the sexes, by a sudden morbid engorgement of the vessels of any of the organs of the body, as we know by daily experience; nothing is more common than a congestion of the vessels of the mucous membrane of the nose, from taking cold suddenly, and, in the first instance, the secretion is always suspended."

We will not say much of the reasoning or of the analogies here. They are not very clear to our understanding. But the essential point is conceded, that general derangement succeeds suppression of the catamenia; and surely this would be likely to succeed whether that suppression resulted from external or internal causes. The quo modo of the general derangement is a matter of speculation—the fact is the main thing.

We fear that Mr. Fox is either a very hasty reasoner or else that he lacks experience. Take the following passage:—

"It has been recently asserted, that symptoms resembling GONORRHŒA have been the consequences of sexual intercourse during the period the woman was menstruating. Now, we know very well, that any cause of excessive irritation may produce inflammation in either the serous or mucous membranes. Thus, the serous membranes will readily take on the adhesive inflammation, whilst those of the mucous membranes will, on the contrary, take on the suppurative inflammation; it may follow, therefore, that an over-anxious and excited coïtus may produce, in the male, an increased action in the urethra to an extent, sufficient to bring on the suppurative inflammation of its mucous membrane, and hence a diseased secretion from the lacunae glands, simulating virulent gonorrhœa. It may be fairly presumed, there must have been, in the cases alluded to, an over-appetence for coïtion on the part of the male, to have induced him to associate with a female under her circumstances. But the idea that the menstrual discharge is in any way noxious, and particularly that it possesses INFECTIOUS PROPERTIES capable of producing gonorrhœa, is totally at variance with medical experience. Moreover, if EVERY FEMALE is PERIODICALLY INFECTED with LOCAL DISEASE because she MENSTRUATES, then the very many persons who have daily intercourse with females who are menstruating, will, as a matter of course, become INFECTED with GONORRHŒA; but we know that such is not the fact; for there are few men who have so complete a control over their passions as to forego the gratifications they anticipate, merely on that account; and the menstrual discharge must infect all or none; there can be no qualification."

First, Mr. Fox denies by implication what most men of experience will affirm —*that* urethral discharge undistinguishable from gonorrhœa in the male, will follow connection with a menstruating female;—*secondly,* Mr. Fox attributes such discharge to particular excitement in the male, though, in the majority of cases of this sort, the fact of menstruation was not known at the time of coition;—*thirdly,* Mr. Fox libels men by saying, that few would fail to gratify their passions with a menstruating woman, whereas we believe the fact to be, that few so gratify them;—*thirdly,* he asserts that if a discharge be capable of exciting disease it must always when applied excite disease, the fact being notoriously the contrary: two men may have connection with a clapped woman, and while one gets the clap the other does not. A certain condition of the recipient as well as of the giver is requisite.

Passing to the predisposing causes of chlorosis, we think Mr. Fox's observations judicious:—

"Females in almost all parts of the world are chiefly confined to the domestic management of a family, and it would seem that nature, in her wisdom, fitted and intended them for such employments; seeing that the delicacy of their frames and constitutions, is inadequate to follow the more powerful and laborious avocations. It is, however, much to be regretted that such confined occupations, although necessarily required, are not the most beneficial to the health of the individuals engaged in them, who are thus deprived of exercise in the open air; for nothing tends to disorder the functions of the body so much as close confinement within doors, which, if persisted in, for any length of time, is sure to lead to this derangement of the general health of which we are now speaking. Unhappily, it is too often the case that very many females, from their slender circumstances in life, are urged by necessity to support themselves at some sedentary employment, and are thus deprived, day after day, of all means of exercising the body, by which only a free circulation of the animal fluids can be maintained. Hence, inactivity of the bowels and obstinate costiveness ensue, occasioning morbid irritation throughout the whole course of the intestines, which soon gives origin to functional, and, if not seasonably corrected, to organic disease of the liver, from which springs a host of affections destructive of the general health. If we add to this the smoke and contamination of a large metropolis or crowded towns, the constant inhalation of miasmatic vapour always existing in such places, the frequent atmospheric changes of our climate and the exposure of the external surfaces of the body to these vicissitudes, the irregular mode of living, and various moral causes, we cannot wonder greatly that the health of the weak and delicate female should so soon become deranged."

That mauvaise honte of young females which leads them so sadly to neglect themselves is indeed much to be lamented.

How chlorosis results from obstructed pores of the liver, Mr. Fox sets forth in petto in this paragraph:—

"It appears therefore manifest, from the foregoing observations, that under a deterioration of the hepatic function, an unhealthy condition of the stomach and chylopoietic viscera may be produced, the glandular system greatly obstructed, the secretions and excretions unhealthily performed, an impoverished condition of blood and juices generally obtains, and a consequent loss of tone and energy throughout the whole course of circulation result; thus, also, the vessels generally throughout the system, are insufficiently supplied with blood, and consequently, those of the uterus amongst the rest, which occasions the absence of the menses at the expected period,—general ill-health prevails,—and this is what AUTHORS call CHLOROSIS."

We must candidly confess that, on attentively perusing the work before us, the exact mode in which Mr. Fox proves his case is a mystery to us. Certainly morbid anatomy furnishes none of the proofs, nor is the precise train of reasoning very palpable. He observes indeed :—

"It has been shown by Dr. Johnson and others, that there may be considerable and long-enduring functional disturbance of stomach and intestines, without its being possible, after death, to discover any structural disease of those organs, or at least to such an extent, as to warrant our assuming it as the sole or chief cause of the derangement during life; it is therefore fair, similarly to conclude that there may be a long continued deranged function of liver, without THAT VISCUS being in a perceptible state of organic disease; and this I believe to be the fact in the complaint called Chlorosis; though it is obvious that continued functional derangement of any organ, must ultimately produce structural disease."

So morbid anatomy may be dispensed with. But, after a fund of reasoning, Mr. Fox winds up :—

"This then, is the only rational view of the cause of CHLOROSIS in LOVE-SICK MAIDS; viz., that by long-continued grief or disappointment, the functions of the stomach and liver have become deranged; the secretion of a due quantity of bile ceases, the digestion and chylification are greatly impaired, and from a deficiency, or alteration in the properties of the gastric juice, the appetite fails, or is rendered capricious; and, as little or no good blood is made, the cheeks, gums, and lips, lose their fine red colour, whilst the long train of symptoms and affections, already noticed, follows. BUT AUTHORS CALL DISAPPOINTMENT IN THE OBJECT OF DESIRE—LOVE-SICKNESS—A CAUSE OF CHLOROSIS; but, on this subject I shall somewhat enlarge, when noticing some of the remedies that have been recommended for the removal of Chlorosis."

Mr. Fox arrives after several chapters at the treatment of chlorosis. He is indignant at the idea of matrimony.

"It is well known, he says, that the general appearance of the female under this disordered state, is any thing but attractive and prepossessing; on the contrary, she is rather disgusting to the opposite sex, the face having lost its vivid color, and become pale, or of a yellowish hue, and the whole body flaccid, with œdematous swellings. How is it therefore, to be expected, under all these disadvantageous circumstances, that the remedy here recommended can, by any possibility, be within reach of the female, even supposing she were so inclined; and were it actually at the risk of character and of all moral feling, to be resorted to, in the way recommended, it would nevertheless fail to produce the effect, the author is led to expect. It is well known that married women, and those who are given to immoral indulgencies, are equally liable to this disordered state of the general health, called Chlorosis; medical practitioners of observation, find this frequently to be the fact; indeed, it is almost daily occurring. Many remarks are made when a young woman is existing under this complication of affections of disordered health, THAT MATRIMONY IS THE ONLY CURE: the absurdity, and and I must say, obscenity of this observation, in my opinion, displays a want of information, or rather a total ignorance of the real nature of the disease in existence."

We confess that the fact of married females being *equally* liable with the unmarried to chlorosis, startles us. It is quite new; and, obscene as the idea may be, we certainly have seen matrimony prove "a sovereign medicine" after the Pharmacopœia had done its best, or worst, in vain.

Passing over various criticisms on various remedies, good, bad, and indifferent, we present our author's own plan of treatment.

"The medical treatment must consist chiefly in arousing the liver to a more active and healthy performance of its offices; the bowels are in the first instance to be thoroughly evacuated of their offending contents, and they are to be afterwards kept from any accumulation, by the occasional use of some aperient medicine; but not in a powerful degree. Infusion of senna, Epsom salts and senna, or rhubarb either in substance or infusion, will be found generally to answer the purpose; of course, selecting such as are found by experience to be best adapted to each individual case. The bowels having been brought under proper command, mercury should be judiciously administered, until a more healthy secretion of bile shall be obtained; in fact, the healthy functions of the liver must be restored, or very little advantage will result from any, however elaborate mode of treatment. Other means must also be had recourse to, to restore a healthy condition of the system generally. Dr. Marshall Hall recommends sponging the body with salt and water, and afterwards using friction for some time with a coarse towel;—I have adopted this plan in many instances, and have found it exceedingly useful—it may, therefore, be amongst the other arrangements, as also the free application of the flesh-brush. By these means, a determination of the blood to the surface will be promoted, a matter of considerable importance; pure and frequent change of air, with moderate exercise, when the patient can bear the fatigue, will also be of great advantage in inducing the same object."

We must say that this smacks a little of the mountain in labour. The treatment here set down is just what five doctors out of six would pursue. And we cannot but remark on the sanguine temperament of Mr. Fox, *or* on his wonderful good fortune, when he has found habitual costiveness almost invariably cured by brown bread. Who of us has not prescribed brown bread for costiveness? And who has not seen it of some service? but who, save Mr. Fox, has had the luck of finding it almost invariably successful?

In conclusion, we would hint that Mr. Fox has given no proofs of this exclusive theory of Chlorosis—that he has not shewn that the uterine system is never primarily at fault—that he has not proved that the suppression of the catamenia is of no consequence—and that he has not convinced us that emmenagogues are always useless or necessarily dangerous.

Every body knows that chlorosis is frequently the result, rather than the cause of deranged general health. But we should be sorry to go so far as to assert that the uterine system *never* takes the initiative in the disease. The great general facts are always the truest; and when we see that young unmarried women compose the vast majority of the subjects of chlorosis, and when we reflect on the constrained and artificial state in which their uterine system is kept by the usages of society, we cannot but suspect that that system plays the most important part in the phenomena of the disease.

At the same time the old and the pernicious notions respecting the treatment of chlorosis, are fast wearing away, if they have not quite disappeared from the minds of intelligent practitioners. Emmenagogues are no longer looked on as specifics, but the uterine system is appealed to through the medium of the general health, both physical and mental. Yet it would be folly to do away with emmenagogues altogether, and experience has shewn that some remedies of that description may be usefully combined with such as enjoy a more extended operation. Such is the common sense view and, we believe, the true one, of the treatment of chlorosis.

ANATOMY.

I. THE SURGICAL ANATOMY OF THE GROIN, THE FEMORAL AND POLITEAL REGIONS. By *Thomas Morton,* formerly one of the House Surgeons of University College Hospital. Illustrated with Lithographic Plates and Wood Engravings. London, Taylor and Walton, 8vo. pp. 207. 1839.

II. THE ANATOMIST'S MANUAL; OR, A TREATISE ON THE MANNER OF PREPARING ALL THE PARTS OF ANATOMY, FOLLOWED BY A COMPLETE DESCRIPTION OF THESE PARTS. By *J. P. Maygrier,* M.D.P. Professor of Anatomy and Physiology; of Midwifery, and the Diseases of Women and Children; Physician to the Bureau de Charité of the Tenth Arrondissement; Member of the Medical Society of Emulation of Paris, of that of Practical Medicine in the same City; of the Medical Societies of Liège and Toulouse; of those of the Sciences in Maçon, Marseilles, &c. &c. &c. Translated from the last French Edition. London: George Henderson. 32mo. pp. 557. 1839.

III. THE SURGICAL ANATOMY OF THE ARTERIES, AND DESCRIPTIVE ANATOMY OF THE HEART: TOGETHER WITH THE PHYSIOLOGY OF THE CIRCULATION IN MAN AND INFERIOR ANIMALS. By *Valentine Flood,* A.M. M.D. T.C.D. Member of the Royal Irish Academy, Member of the Royal College of Surgeons in Ireland; and Lecturer on Anatomy and Surgery in the North London School of Medicine. London: S. Highley. 12mo. pp. 237. 1839.

IV. TEXT-BOOK OF ANATOMY FOR JUNIOR STUDENTS. By *Alex. Jardine Lizars,* M.D. Fellow of the Royal College of Surgeons of Edinburgh, Lecturer on Anatomy, and Examiner to the University of St. Andrews. Part I. 12mo. pp. 272. 1839.

1. Mr. MORTON informs us that the present publication is intended to form, with the Surgical Anatomy of the Perinæum already published, part of a Work, which, when it shall have been completed, will contain a description of the Surgical Anatomy of some of the most important regions in the human body.

"The drawings, from which the lithographic plates have been engraved, were very carefully made after my own dissections; as were also those from which the wood-engravings have been taken, with the exception of Nos. 4 and 5, which were accurately copied from similar plates in Hesselbach's Essay upon the Origin and Progress of Herniæ."

The execution of this work is highly creditable to Mr. Morton. So far as we have dipped into them, his descriptions of the anatomy of hernia are exceedingly correct. The work is well adapted for students, and is calculated to supply them with information of a very valuable character.

The plates are extremely well executed. There are eight coloured lithographs, besides several wood-cuts. We recommend the work strongly.

3. Dr. Flood informs us in his Preface:—

"My principal object in writing the following pages, has been to present the professional reader with an accurate description of the Heart and Arteries of the human subject, in as condensed a form as would be consistent with clearness. To make the work still farther available for practical purposes, I have added a description of the principal operations performed on the larger trunks, and incorporated a vast number of the varieties, which an operating surgeon should be prepared to meet in the course of his practice. In collecting the anomalies of the vascular system, I have freely availed myself of the labours of Farre, Baillie, Meckel, Haller, Barkow, Bouillaud, Otto, Gintrac, Burns, Barclay, Tiedemann, Geddings, Cruveilhier, Wardrop, and the authors of various articles, in the *Philosophical Transactions, Cyclopædia of Anatomy,* and periodical works of the present and several preceding years. I have also to express my special obligation to Dr. P. H. Green, who, since my settlement in London, has liberally per-permitted me to peruse his scarce and valuable work on the varieties of the arteries—a work of the deepest research, and abounding in the most accurate information."

" In the form of an introduction will be found an outline of the physiology of the circulating system, in man and inferior animals, illustrated by several wood-cuts."

As a sample of this work, which will be really a valuable acquisition to every operating surgeon we extract the following short passage. We confess it is almost like shewing a brick as a sample of a house.

" *Irregularities affecting the ligature of the common carotid artery.* A very remarkable case has been observed in a subject at the Richmond Hospital School, in which there was no common carotid on the right side—the external and internal carotid arising separately from the arch of the aorta. The order of the vessels were—right subclavian, right external carotid, right internal carotid, left common carotid, left subclavian. My colleague, Mr. Power, showed this preparation to the younger Tiedemann when he visited our School, and Tiedemann remarked that no similar case had been observed or heard of by himself or his father. Mr. Harrison observes in a note in his book on the Arteries, vol, i. p. 29 —' I have known two examples of the internal and external carotids arising on one side separately from the aorta;' but makes no other observation on the subject.

In some cases the common carotid is crossed in front by the inferior thyroid artery. In other cases the vertebral artery ascends behind it to pierce the third or second vertebra.* Cases are recorded, in which it ascended behind the angle of the lower jaw† before it bifurcated, and on the other hand, it may bifurcate as low as the inferior margin of the thyroid cartilage,‡ or at the sixth cervical vertebra§: lastly, it sometimes happens, that there is no bifurcation, the common carotid and internal carotid forming a continuous trunk, which gives off the branches of the external carotid.

There are references in other parts of this work to instances in which the common carotid gave off the inferior thyroid, superior laryngeal, pharyngeal ascendens, superior thyroid and right vertebral."

The only pity is that so useful a little work should be got up in so plain and unadorned a manner.

4. Our friend Mr. Lizars may explain himself.

" Having had ample opportunities of observing how much Students are generally occupied during lecture time in taking notes of the Anatomical Demonstrations which are then being delivered, I have prepared the present Treatise with the view of saving them that trouble. In taking this step I shall probably incur the disapprobation of those who imagine that it is advantageous for the

---

* " Burns p. 170. Hargrave, p. 69. Hird. L. Med. Gaz. Feb. 4, 1837."

† " Green says, it may divide as high up as ' the superior part of the styloid process,' which must mean at the base of the skull, but he gives no explanation, instance, or authority."

‡ " Hart. Todd's Cyclopædia Art. Carotid."

§ " Burns on the Heart, p. 285. Morgagni Epist. 29, Art. 20."

Pupil to be so engaged; but this opinion, I feel convinced, is erroneous, and for the following reason—That the learner, when thus engaged, generally loses half the lecture, his eye and attention being necessarily removed from the object under description, upon which alone they ought steadily to be fixed. This little work will enable the Student to follow lectures on Anatomy with (I trust) every possible facility; and will supply him, at the termination of his studies, when his time is invaluable, with the readiest means of reviewing this branch of Science within the narrowest limits. In the execution of my task I have steadily aimed at the greatest degree of conciseness compatible with the requisite minuteness, and with accuracy; and utility has been the great and constant object of my ambition."

And Mr. Lizars has succeeded à merveille.

A LECTURE ON CIVILIZATION; read at Northampton before the Members and Friends of the Society for the Diffusion of Religious and Useful Knowledge, on Monday, June 30, 1839. By *Archibald Robertson*, M.D. Published at the request of the Society.

EVERY one acquainted with the talents of Dr. Robertson would be prepared for an eloquent address on such a subject as the above—and they will not be disappointed. The lecture is not a medical one, and therefore our notice of this pamphlet must necessarily be very concise. The accomplished author arranges the causes of progressive civilization in two classes—divine and human. The first include language, laws, government, and religion:—the second comprises printing, intermixture of mankind by means of war and conquest—geographical discovery—commerce—colonization—and emigration—arts, sciences, literature, poetry and music. On all these topics Dr. Robertson makes some highly important remarks—with the exception of RELIGION, which he properly leaves to his clerical colleagues, as falling more especially within their province. It cannot be expected that we should analyze Dr. Robertson's theory of the causes of civilization throughout its various ramifications. We were strongly tempted to make an extract from the "Art of Printing," as one main cause of mankind's improvement, and more especially as an art with which we have had something to do, for the last twenty or thirty years; but another subject, with which we have had some acquaintance, before these "piping times of peace" took place, called us off from leaden types to leaden bullets—from the press to the press-gang—from ink to blood—and from sheets of foolscap to the winding-sheets of our soldiers and sailors. The passage occurs under the head of war and conquest. It is *too* flattering to John Bull to be passed over.

"I have before hinted, that the principle here pointed out, may be usefully applied to the investigation of the varieties of National Character. Let us try what we can make of it by applying it, as a test, to that of our own country. England is confessedly the foremost nation of modern Europe; being, by common consent, considered at the head of the Civilization of the world. What has made her so? Some will say 'her free institutions.' But I urge in reply, that to say so would be mistaking the effect for the cause; for, I contend, that it was the pre-existing superiority of her national character that enabled her to acquire those free Institutions that have so long been the birth-right of Britons, and the admiration of the world. My belief is, that the supremacy of the British People is owing to the frequent intermixture of races in the early stages of our national history. Most of you familiarly know, without being reminded by me, that the Ancient Britons, the primitive Celtic Inhabitants of our Island, were conquered by Julius Cæsar, about fifty years before Christ. The Romans kept possession of this Island for nearly five hundred years. Then came the

Saxons as Conquerors; next to them the Danes; and last of all the Normans. It thus appears that the blood that animates the stout heart of an Englishman is not one unbroken stream, but a fluid collected from many parent-fountains. Hence, the composite order of our national character; in which a nice observer might be at no loss to detect traces of the simplicity of the Celt, the greatness of soul of the old Roman, the solidity of the Saxon, the fire, with somewhat of the ferocity, of the Dane, and all the pride, and more than all the military ardour, of the gallant Norman. This I take to be the true secret of that *Pluck* (to use a homely, but expressive, term) in which all true-born Englishmen especially pride themselves; that inherent courage which enabled our ancestors to wrest their free Institutions from the reluctant hands of the Plantagenets, and the Stuarts. What was it but good Old English *Pluck* that enabled our fellow-countrymen, of our own day and generation,—emulous of the deeds of their forefathers at Agincourt, and at Cressy,—to withstand the fury of an iron shower for eight or ten long hours, and at last to annihilate the overgrown military despotism of the modern Attila, on the plains of Waterloo? This was a deed of arms, such as the world has seldom seen; a deed of prowess, which, added to countless triumphs in every quarter of the globe, by sea and land, has exalted the bravery of Britons to a height of renown

'Above all Greek, above all Roman fame.'

Of course I do not ascribe *all* to the physical superiority of the race; moral causes have had their influence; and, amongst these, the public spirit arising out of our free institutions has not been the least conspicuous. Our pure reformed worship too has had its share; for religion is the strength of a nation, just as truly as 'sin is the reproach of any people.' Unless the national character had been sprinkled, and purified, by the living waters of the National Faith, neither the bullet nor the bayonet would have fulfilled the National hope, as weapons of defence. Climate also has had a marked effect. The climate of our native land, much as it is abused, has in it many redeeming qualities. It tends to make our numerous population hardy, enterprising, and free. Its very severity and caprice teach daily lessons of prudence, foresight, activity, and industry. It has been my lot, in the course of my life, to be familiar with various climes; and, I am inclined to give the preference to our own, with all its ad-admitted uncertainty, over them all. I would say of the climate, what the delightful Poet Cowper, says of the Country itself:—

'England, with all thy faults, I love thee still!'

I firmly believe, on the evidence of Statistical Tables, that the English climate, on the whole, is as conducive to the duration of human life as any of the most favoured climates under the Sun. Advantages and inconveniences are distributed with a more impartial hand, than we, on a transient view, are apt to imagine. If the more Southern Climates are gilded with a brighter sunshine, perfumed with more fragrant gales, and decorated with a greater profusion of plants and flowers, they are, at the same time, perpetually exposed to pestilential heats, infested with noxious animals, torn by hurricanes, and rocked by earthquakes, unknown to the rougher regions of the North."

Our readers are well aware that these sentiments have been those which we have long preached—we mean those respecting climate. But when Dr. Robertson casts an eye over our own country, and deliberately reflects on the scenes which have too recently disgraced it in the eyes of Europe—such as the fanaticism of certain sects—the followers of Irving—Johanna Southcote,—the Kentish Christ, &c. not to mention the revivals of Scotland, the Chartist mania, and hundreds of other instances, of which the red Indian, the tawny Hindoo, and the jet black African would be ashamed, he will see that there is much need of the schoolmaster *at home*, as well as *abroad*, and that the society, of which he is a distinguished member, has a great deal to do, before they raise the lower orders of this country even to a level with those of many parts of the Continent—especially Holland and Prussia.

The sample which we have extracted from Dr. Robertson's pamphlet is by no means the best which we could have selected; but it will, we are sure, induce a great many of our readers to peruse the whole brochure, which is equally creditable to the head and heart of its author.

MEDICAL REPORT OF THE HOUSE OF RECOVERY AND FEVER HOSPITAL, CORK STREET, DUBLIN, FOR TWO YEARS, FROM 1st JANUARY, 1837; TO 31st DECEMBER, 1838. By *E. A. Kennedy*, M.D. President of the College of Physicians. 1839.

THIS Report appears to be drawn up with great care, and is calculated to give us an insight into those visitations of typhus which scourge but too frequently the sister Island. The reporter assures us:—

The extent to which fevers have frequently prevailed in Ireland has led to the establishment of hospitals for the special reception of poor persons suffering under that disease. It is stated in the Report of a Select Committee of the House of Commons, in the year 1830, that in 1817, on a moderate calculation, one million five hundred thousand persons suffered from fever in Ireland; of which number at least sixty-five thousand died.

The number of applicants for admission into the Fever Hospital for 1835 exceeded the average of some former years. The cases continued to increase in 1836, and communications were made by the government to the physicians of the Fever Hospital, and measures for augmenting the accommodation of applicants adopted. In a Report made by the physicians to the Government, we find the following passage:—

" It may, however, be stated, that the physicians have scarcely ever observed those circumstances which favour the progress of epidemic disease more strikingly exhibited than they are at present. They have frequently seen from ten to twenty individuals crowded into apartments of small dimensions, ill ventilated, filthy and offensive in the highest degree, the inmates in want of the necessaries of life, oftentimes without bed-covering, or even sufficient personal clothing."

And some can be found to wonder that the Irish are not quite satisfied. The starving and naked and famished victims of typhus should utter no sounds which may mar the mirth, or disturb the aristocratic quietism of their masters.

" In December, 1836, and for several months previous, typhoid fever predominated beyond all former observation. Among my own patients a great number of instances of unmixed typhus of the very worst description occurred, than I recollect to have seen for several previous years. The mortality also was much greater; and it is curious to observe, from a reference to my notes of the cases taken at this period, how, almost invariably, the tenth day appears to have been that on which the fatal termination of the disease took place.

In the conclusion of this month, or rather, I should say, early in January, 1837, an epidemic catarrh or influenza appeared, and prevailed so generally, that neither age, constitution, or class of individuals was exempted from the ravages of the disease; it prevailed, I think, more extensively, and the rate of mortality was greater in the higher classes of society."

" It has been questioned whether two epidemic diseases ever prevail contemporaneously in the same locality. The author can here only remark, that the one he has detailed was preceded, accompanied, and followed by typhus fever, which in intensity and in the numbers attacked, nearly equalled any which has been recorded in the history of this hospital. The same occurrence was observed in the epidemic catarrh which prevailed in Ireland in 1803, as recorded by Drs. Moriarty and Patterson."

When the influenza prevailed, the fever abated somewhat of its virulence, but, as the former declined, the latter increased. It began to get a-head in March, and attained its maximum in June.

The type of fever which characterized the present epidemic, and which prevailed so generally in 1836, was the pure typhus, or what has been, not unaptly, termed adynamic typhus: delirium, great prostration of the mental and muscular power, petechiæ, black sordes on the tongue, involuntary dejections, subsultus, and tendency to sloughing being frequently present.

There was sometimes a tendency to hæmorrhage, at other times to diarrhœa, and at one period there were many cases of erysipelas and diffuse inflammation.

The duration of the fever was protracted, and relapses were by no means so frequent as has been observed by the author during the prevalence of former epidemics. There was also another peculiarity in its attacking the young in an unusually large proportion. Thus, by a reference to the table, it will be found that so large a number as 1847, under the age of fifteen, were discharged during the year; and the author has never witnessed so many cases of genuine typhus, accompanied with extensive petechial eruption, as occurred even in those under the age of five years.

" At the commencement of the epidemic, well marked crisis was not observed; but during its progress, and more particularly in private practice, where opportunities were more favorable for observation, crisis by urine was frequent; and this was so repeatedly brought to my notice, that in many cases a favorable prognosis was not formed until a deposit in the urine took place, and which occurred generally about the 14th or 16th, and in some instances so late as the 20th day. I did not consider convalescence established if this did not occur; nor was it safe to allow nutriment to some patients who had a craving for food previous to its appearance. Frequently sleep, which I consider the best crisis in fever, supervened on the occurrence of the urinary deposit.

If the frequency of crisis was not observable, the universality of petechiæ was remarkable. This circumstance is not now looked on with so much apprehension by those conversant with the fever of this country."

" I have observed, however, if the eruption is coeval with the fever, (that is, occurs on the first day, in those cases which commence *uno ictu*) that it is not a favorable symptom. Again, where the eruption re-appears and becomes vivid at the termination of fever when it had previously declined, that it frequently denotes an unfavorable issue. The practitioner should not be misled by those cases where, having found them to decline on the chest and extremities, he thinks that they have re-appeared on an examination of the back; it is the position of the patient which has retarded the evanescence of this eruption in these cases.

The variety of the eruption observable during the greater part of the year was of the rubeolous description; while in the latter part of the year 1836, the purpura variety prevailed. These latter cases on recovery I think afford a greater immunity from future attacks of fever. In both however there is less danger of relapse than in fevers of ordinary type.

During the latter part of August I met with miliary eruption in two cases: one in a female of the name of Godby, in whom it was extensively diffused over the whole body; gastric symptoms were predominant in her case.

This variety of eruption was frequent with me in the year 1826; it was mostly confined to the chest, and accompanied by diaphoresis, which was the general critical termination of the fevers of that year."

We shall pursue the author through his running notice of symptoms, and select such observations or facts as seem to possess any practical importance.

a. In many cases of fever, and these the most severe, when delirium was present, the pupils were contracted; this, although a formidable symptom and leading the author to form an unfavorable prognosis, was yet by no means so dangerous a symptom as dilated pupils; the former occurred much oftener in those cases where there was great subsultus and picking of the bed-clothes.

The author may here remark that the contracted pupils oftener denote the paroxysm of mania than that of fever.

b. Error in diet was however not unfrequently the cause of violent delirium in the convalescent. In one case of a man named Bishop in the author's wards, an error of the nature alluded to caused a violent paroxysm of delirium, which rendered the issue of his case for many days extremely doubtful. And in the case of a gentleman mentioned to the author by his friend Mr. Wilmot, a similar irregularity occurred; delirium set in, and lasted for three months, during which period the patient made several attempts at self-destruction.

c. Deafness frequently occurred during the progress of fever; and in some convalescents remained a considerable time after their discharge from hospital; when a patient said, " I don't hear what you say, Sir," the sound was more gratifying than the expression, " I am better," the symptoms of improvement often not being so manifest in the latter as in the former case. At all times I considered deafness during fever in a more favorable light than acuteness of hearing.

d. Mania occurred in three cases—there were two instances of partial paralysis—epilepsy, apparently, in three cases.

" In some instances, epileptic convulsions are known to be suspended during an attack of fever: in confirmation of which the author begs to notice the following interesting case, which occurred to him several years since. The son of a tradesman, aged nine years, had been subject to epileptic fits from the age of two years, which latterly became more violent and frequent. During my attendance on him in severe typhus, with tendency to gangrenous sloughs, he had no return of the epileptic convulsions; and what is more remarkable that for seven years after the fever, during which period I had repeated opportunities of observing his case, he never had a renewal of an attack; and I think it more than probable that the febrile attack extinguished the previous disease."

e. The state of the pulse is recorded in three hundred and twenty-three cases. Although the author would by no means wish to supersede a careful observation of the pulse in fever; yet it must be remarked that the indications of the pulse in severe cases of typhus, are more uncertain and fallacious than in the milder cases, and more particularly in those of idiopathic fever. At an advanced stage of the more severe forms of the disease, a pulse of 120 denoted more danger than the same frequency at its commencement. In the case marked 63 in the tables, the pulse was intermittent all through the fever, while there was no such irregularity when convalescence was established. It is well known that intermission of the pulse often occurs in slight febrile attacks caused by a deranged state of the bowels.

In one case of a female in the tents, the pulse was only thirty while the respiration was thirty-seven.

Slowness of the pulse was frequently observed in an epidemic in this city noted by Dr. Rutty. It was remarked in most of those whose fever ended in a bilious purging, that the pulse from the beginning throughout the disorder was extremely slow and equal, not beating above forty times in a minute, which was not the case with those who had a diarrhœa at first.

f. To an experienced practitioner the tongue affords a more certain index as to the nature and progress of fever than any one symptom, or perhaps assemblage of symptoms; whether we regard its colour, shape, tremulous motion, or mode of protrusion among the great variety of its morbid appearances. To these remarks, however, the author might add numerous exceptions in the present epidemic; a few may be noted: a man named Johnson was admitted on the 11th day of fever, with a clean although somewhat tremulous tongue, and died on the 13th. Andrew Doyle, violent delirium; papular petechiæ; tongue clean; death, A female of the name of Murphy was considered to be improving on the 11th day of fever, as she was found to turn on her side; her tongue clean and moist, with intellect clear; when, on the 12th day, this improvement was suddenly put a stop to by the appearance of suffused eyes; fluttering pulse; and she sunk the same evening. These, and many others which might be adduced, will show the necessity of caution in forming our judgment from the apparently favourable appearance of the tongue, when the other symptoms do not correspond.

"In elderly persons (and I have witnessed typhus gravior in many individuals of an advanced age) the tongue was found to be fuliginous; and in one gentleman, subject to the gout, the tongue appeared as if washed with ink every morning, it was so black and moist; yet the dejections did not differ from the ordinary vitiated appearance of the secretions in typhus: on recovery, a length of time elapsed ere he regained his sense of taste.

Sometimes the tongue was found to be deeply indented with fissures, both during the progress of fever and in convalescence. Morbid taste existed for several days prior to the accession of fever in many individuals. The tongue remains white in many cases for a considerable time after convalescence, and these, by inattentive observers, have been reported either relapses from, or fresh cases of fever."

g. Gangrenous ulceration of the mouth occurred in several instances. In two, the disease was arrested by the application of the nitro-muriatic acid, by means of a hair pencil to the gangrened surface with camphorated spirit applied to the cheek externally; and the exhibition of wine with sulphate of quinine. In the present epidemic, as well as in former ones, the affection occurred in cases where no mercury had been given.

h. Parotid swellings were frequent, in one or two instances arising suddenly in one night; they did not appear to be critical, or attended with danger in adults: but when they occurred in children, particularly in scarlatina, when the exanthem was imperfectly developed, the appearance of these swellings was regarded as a most unfavourable symptom. Sometimes suppuration took place, which retarded convalescence.

i. Abscesses were not so frequently observed as they had been on former occasions. But the following cases are worth perusal:—

Case 1.—"A female, aged 30, was considered convalescent, when suddenly she was seized with coma and involuntary dejections; pupils dilated; her head having been shaved during the fever, a mustard cataplasm was applied to the scalp; leeches applied to the ears; and a terebinthinate enema administered. Thinking that sudden effusion on the brain had taken place, I did not calculate on finding her alive on the next day; but my surprise and gratification were extreme, when the nurse informed me that during the night a quantity of matter burst forth from the left ear, which still continued oozing on my visit. She left the hospital convalescent."

Case 2.—David Sibbald, a servant, æt. 15, was admitted on the 10th day of fever, with petechiæ; sordes on the tongue; delirium during the progress of the disease. An extensive slough formed on the sacrum, notwithstanding the most unremitting attention; indeed the tendency to gangrene was remarkable in his case, the scapular, dorsal, and iliac regions, even the legs exhibiting marks of discoloration; on the 16th day of his illness the pupils were observed to be dilated, and insensible to the stimulus of a strong light: this state continued for a week, at the expiration of which, suddenly a large quantity of pus issued from the ear, when some degree of consciousness returned, as he made an attempt to protrude the tongue when required to do so. The emaciation in his case was extreme; he left the hospital at the expiration of thirty-three days; several months elapsed, however, before he regained strength sufficient to undertake the most trifling duties of his situation.

Case 3.—A man, during a protracted fever, was suddenly attacked with symptoms of laryngitis; on the application of leeches and a blister on the throat, he thought himself relieved: but the relief was conjectured to have arisen from the discharge of an abscess in the vicinity of the glottis, as he threw up a quantity of matter. As the convalescence of fever became established, the laryngeal symptoms continued. Although on a careful examination of the chest, no disease of the lungs could be detected, yet, from the emaciated and feeble state of the patient, it was on consultation deemed unadvisable to perform tracheotomy with a view of relieving the laryngeal disease; mercury was therefore cautiously exhibited, but without any alleviation of the symptoms. He died on the end of the thirty-fifth day from his admission. On post-mortem examination the lungs were healthy, but an ulcer was found in the left rima glottidis.

Case 4.—" I was requested to assist a medical friend in the examination of an individual, who, he informed me, had died in consequence of pericarditis in combination with fever then prevalent. On opening the thorax a quantity of matter was found lying on the pericardium, which on careful examination was discovered to proceed from an abscess formed under the fascia of the neck, and which made its way behind the sternum into the mediastinum. Although this rare and very unusual occurrence may not have been the immediate cause of the disease, which in this case proved fatal, yet it will show the necessity of constant vigilance in fever, in order that we may be able to detect the formation of matter in situations where prompt measures are required to remove impending danger."

j. Pulmonary hæmorrhage was rife in May and June. This hæmorrhagic tendency, says our author, occurring at one period rather than at another, is important to note, as it points to a caution in the employment of the lancet, or more especially in the employment of leeches in individuals so circumstanced; for when it exists, it is difficult to arrest the hæmorrhage.

k. The author, on this as well as on former occasions, had taken considerable pains in endeavouring to ascertain the latent period of fever, which, from many causes, differs much in different individuals. In many instances the disease commenced as it were *uno ictu;* while, in the vast majority, a period elapsed from six days to eight weeks; the longer term being more frequently observed in the upper orders of society. From numerous facts presented to him, the author is of opinion that the cases in which the disease develops itself rapidly and with energy, are generally the most formidable and attended with danger: but the longer the latent period of fever, the more complicated the disease has appeared to him, and more difficult in the management.

l. The fever chiefly pervaded the lower classes of society. But a good many domestic servants were attacked. A hint to the rich to subscribe to fever hospitals, and, we may add, to a poor-law.

m. With respect to the practice pursued during the past year, the author seldom had occasion to employ general blood-letting; the application of leeches to the head, with tepid sponging; and cupping when the chest was engaged, having proved sufficient in numerous instances to moderate the symptoms. In some of the cases of diarrhœa, which occurred in the progress of fever and during convalescence, the application of a few leeches to the umbilical region was found beneficial. Blisters were applied where a tendency to coma appeared; they were injurious, however, in those cases where great irritability of fibre existed; and in many cases sent to hospital, when epispastics had been applied on the complaint of head-ache, their application proved a more positive injury than a large depletion. Opium was prescibed in the form of Dover's powder, in cases of typhus complicated with the different shades of delirium tremens; and in cases where great excitability existed with pervigilium for two or three nights in succession, a full anodyne was given, having premised depletion by the application of leeches to the temples. There is no remedy, in the author's opinion, which requires more discriminative observation than the employment of opium in the treatment of fever. Wine has been freely used during this epidemic; the average quantity prescribed by the author and his colleagues seldom exceeded eight ounces in the twenty-four hours. It has been justly remarked that wine is sometimes a better hypnotic than opium. An illustration of the type of fever is afforded by the quantity of wine consumed in one month compared with the corresponding month in 1838; thus, in June, 1837, the quantity of wine consumed was 4562 ounces; while in the same month, 1838, the quantity was only 1352 ounces.

n. "With respect to the pathology of this epidemic, the writer regrets that his researches do not enable him to throw any light upon the darkness in which the pathology of fever is involved. The only post-mortem appearance that was at all constant, was congestion of the vessels of the membranes of the brain. But not only was this not invariable, but it is so frequently found in every form of death where the agony is prolonged, that there can be no necessary connexion between it and the symptoms of typhus fever. In many cases it was accompanied by sub-arachnoid effusion, which was sometimes a limpid serous fluid; sometimes a layer of an opaque whitish gelatinous matter.

But if this epidemic typhus was not characterised by any uniform or constant pathological changes, it was very remarkable for the almost total absence of those abdominal lesions, which have been regarded by some as the invariable attendant of typhus fever. Indeed, in this respect, this epidemic affords a striking and conclusive refutation of the false and hasty generalizations of the French pathologists on this subject. In this respect also it differs altogether from the epidemic fever of 1826, (which the writer had an ample opportunity of investigating, while in charge of fever patients supported at the expense of the government at the Meath Hospital that year,) in which, in a large proportion of the post-mortem examinations made by him, more or less disease of the glands of Peyer was found."

o. Our Author appends a Table of Monthly Returns of the Admissions, Discharges, and Deaths of Fever Patients in the several Hospitals, Dublin: distinguishing the sexes; from 1st January to 31st December, 1837.

"This table exhibits a complete view of the rise, progress, decline, and intensity of the Fever of 1837 in this city.

It appears from it that, in that year, 11,085 fever patients were admitted into the Dublin Hospitals. Of these, 4,648 were admitted during April, May, June, and July, the period when the epidemic was at its height; and of the remaining 6,437, admitted in the eight other months, 1,030 were admitted in January, when the influenza prevailed.

The total number of deaths was 1,103, giving an average mortality of one in every 10$\frac{1}{10}$.

The relative number of males and females attacked, as well as the relative mortality of the two sexes, as exhibited in this table, is very remarkable and well worthy of attention. The number of males admited to hospital was only 4,986; whereas of females there were 6,099. The total mortality of the males was 1 in every 8⅛, while of the females it was only 1 in every 12½; or,

In the males the mortality was .. .. 12½ per cent.
In the females .. .. 8¼ do.

The relative mortality of the different hospitals, as shewn by this table, is a circumstance highly deserving attention, as well on account of the differences as of the agreements amongst them in this respect. Thus, while the mortality at the Hardwicke, Dun's, and the Meath hospital, was so high as 1 death in every seven: in Steevens's and the House of Recovery it did not exceed 1 in every 12.

There is no point in the history of fever respecting which we have more conflicting statements than this of the mortality in hospitals. It is usually supposed to depend on a great variety of circumstances, over which the physician has little or no control; such as, the extent of accommodation in proportion to the number; the facility or difficulty of admission into hospital; the ages to which admission is restricted; the character of the prevailing epidemic, and the period of its duration at which the observations are made. It seems, however, probable from the discrepancies as well as the coincidences in the rate of mortality in the Dublin Hospitals during the same epidemic, observed in the same periods of its progress, that this depends on fewer and more general causes than is commonly imagined. This view receives remarkable support from a consideration of the rate of mortality in the tents at the House of Recovery, Cork-street, as exhibited in the table. In these the patients were placed in apparently the same circumstances, and exposed to the same influences throughout the whole course of the epidemic; yet, nothing can be more variable than the mortality. Thus we find in May, 1 death only in every 12; in June, 1 in every 7; while in August, we have only 1 in every 19. That this did not depend on any variation in the nature of the epidemic itself appears in the highest degree probable, from a comparison of the rate of mortality in the tents and in the adjoining hospital. Thus in June, when the deaths in the tents amounted to 1 in every 7, the mortality in the house was so small as 1 in every 15.5."

And Dr. Kennedy adds:—

From an examination of these tables it appears that in this epidemic the greatest number of attacks occurred from the age of 10 to 15 years for the males, when the proportion is about 18 per cent.; and from the age of 15 to 20 for the females, when the proportion is nearly 16 per cent.

The number of females at every age previous to 70 exceeded the number of males.

The number of females under 20 years of age is	1,588
And of males	1,376
Excess of females under 20	212 or

a little more than 7 per cent.

In the Glasgow Fever Hospital, from October, 1835, to November, 1836, this excess was found to be above 8½ per cent.; and, as Dr. Cowan has observed, this fact should be kept in view, as it has an important bearing on the relative mortality of the sexes.

The number of both sexes from the age of 15 to that of 30 years was 2,628, or 42½ per cent.

The number under the age of 30 years was 4,517, or 73 per cent.

After the age of 45 the numbers rapidly diminished. Of the 6,724 cases computed in this table, 5,962 were under 45 years of age, and only 762 above it, being about 88 per cent. for the former, and 11 per cent. for the latter.

In viewing this table in reference to the *mortality* in fever, the first thing that strikes one is the great difference in this respect between the sexes: thus, while the total mortality of the males is 1 in 9½, that of the females is only 1 in 15.

At almost every period of life comprised in the table, the mortality of the males from fever exceeds that of the females. In the earliest period of life, up to 5 years, the difference in this respect is not striking. After this age it increases until at 20 the deaths amongst the males are 1 in every 16, while amongst the females they are only 1 in every 42. From 20 to 25 the numbers are again nearly equal; but from 25 to 40 the deaths are nearly twice as numerous amongst the males as the females, after which to 55 the difference becomes still greater—the proportion for the males being 1 in 3, for the females nearly 1 in 11. From this time to the 80th year the mortality is nearly the same in both.

The rate of mortality is greatest both in males and females at 60.

Looking to the total number of deaths at different ages, it would appear that the mortality in fever is considerable up to 5 years of age, from which to 15 it is remarkably small, after which it increases, and goes on almost steadily augmenting up to 60.

We have taken out most of the important passages from this Report, and presented them to our readers. Of the Report itself we would speak in high terms. It forms a valuable pendant to that of Dr. Cowan, of Glasgow, and deserves, like *it*, to be studied. The subject of epidemic typhus begins to claim serious attention, even in London, and the body of practitioners should be in possession of the facts connected with it.

NEW EDITIONS OF STANDARD WORKS.

I. PRACTICAL SURGERY; with One Hundred and Thirty Engravings on Wood. By *Robert Liston*. Second Edition.

MR. LISTON informs us:—

" A Second Edition having been already called for, the letter-press has been revised and corrected with care. Various alterations and additions have been made, and a few new wood-cuts added; some have also been engraved anew, in place of such as did not exhibit the subjects distinctly. These improvements, it is hoped, may render the work both more useful to surgical pupils, and more deserving the patronage of the profession at large."

The short time which has elapsed since the publication of the first edition of this work, is sufficient evidence of the estimation in which it is held. It is the first original treatise on operative surgery, at least of any importance, which has been brought out in this country. Our other manuals have been avowedly or really taken from the French, and differ in many respects from the present. This gives us the results of Mr. Liston's experience, which may be safely admitted to have been considerable, and to possess strong claims on our attention.

It would be absurd to attempt an analysis of a book, which is in a great degree elementary, and which is in the hands of so many surgeons. We cannot, however, resist extracting, for the sake of those who have it not, some of the valuable suggestions which abound in it. Of course, we must dispense with any thing like connected order in our quotations.

Necessity of studying the Art of Operating.

We agree with Mr. Liston that it is the bounden duty of every one engaging in the practice of our profession, in addition to a correct knowledge of the *science of surgery*, the causes, symptoms, and consequences of disease, the signs of injuries, the morbid changes in the tissues involved, to make, moreover, the *art of operating* the subject of most careful and diligent study. And probably he is not far wrong when he observes:—

The art of operating has, even by many of those in prominent situations, been too lightly considered, and too little practised on the dead body. The foundation of the study of the art of operating must be laid in the dissecting-room, and it is only when we have acquired dexterity on the dead subject, that we can be justified in interfering with the living. Many poor creatures have been sacrificed in consequence of the ignorance, carelessness, and self-sufficiency even of scientific professors, who have either despised or neglected the study of surgical anatomy, the considerations of what may arise during this or the other operation, and the due education of their fingers. The infliction of unnecessary pain, through want of adroitness in the use of instruments, by protraction of any proceeding, the hazarding in the slightest degree the safety of any one who puts confidence in us, who trusts us with his life, or of one who, as in public practice, is, as it were, by chance, and without the means of appeal, thrown into our hands, cannot by any means be palliated or defended—it is, in point of fact, highly criminal.

Dressing of Wounds.

"A sort of routine practice has been long pursued in dressing wounds. They are put together without delay, and their edges squeezed into apposition and retained so by various means, such as sutures, plasters, compresses, and bandages. They are carefully covered up and concealed from our view for a certain number of days. Then the envelopes of cotton and flannel, the compress cloths, the pledgets of healing ointment, and plasters are taken away, loaded with putrid exhalations, and a profusion of bloody, ill-digested, fœtid matter. A basin is forthwith held under the injured part, and the exposed and tender surface is deluged with water from a sponge, and then well squeezed and wiped. Then comes a re-application of retentive bandage, of the plaster, of the grease mixed with drying powder, all surmounted by some absorbent stuff, as charpie or tow, to soak up the discharge. This is not unaccompanied by pain, often more complained of than that attendant upon the original injury or operation. This process is repeated day after day, the patient is kept in a state of constant excitement, and often, worn out by suffering, discharge and hectic fever, falls a victim to the practice. It would here serve no purpose to detail the mode of cutting the plasters, and of spreading the pledgets; nor would there be any use in giving an opinion as to whether a mixture of the earth called armenian bole, or the impure oxyde of zinc, the tutty or calamine, was the best ingredient to put into the digestive, drying, healing unguents, or as to whether they should be compounded of one kind of animal fat and vegetable oil, or another; nor would any good come of stating how the soiled bandages and filthy straps are to be removed, whether they are to be cut off or removed first from one end and then from the other. The system is a bad one, the applications filthy and abominable; the whole proceeding outrages nature and common sense. The wound is, as it were, put in a forcing-bed; excited action, beyond what is required, is hurried on, and the consequence is, that union seldom, if ever, can or does take place. A suppurating surface, on the contrary, with profuse discharge, and a very tedious cure, if any, is obtained."

This is strong language, but perhaps it is not altogether unwarrantable. There can be no doubt of the existence, indeed the prevalence of the evil that Mr. Liston reprobates; but, perhaps, he carries his horror of all dressings save water rather far. With the utmost love for the pure element, we are disposed to hesitate before we subscribe to the oath of the surgical tea-totallers.

Mr. Liston's method of dressing.—Surfaces are not disposed to unite for many hours after the division and separation have occurred. So long as oozing continues, there is no good end to be achieved by their close apposition. It is only when reaction has occurred, when the vascular excitement around the solution of continuity has taken place, and the circulation has been roused, when plastic matter begins to be secreted and thrown out, that the process can be expected to commence. The edges of a large wound, as that resulting from amputation of the extremities, may be approximated in part so soon as the bleeding from the principal vessels and larger branches has been arrested. But the close apposition, and the application of all the retentive means, had better be delayed for six or eight hours at least. In the interval, extreme sensibility of the injured parts may be abated, the oozing moderated, and the chance of secondary hæmorrhage much diminished, by covering the parts with lint dipped in cold water, and frequently renewed; or, as after any of the greater amputations, for instance, a piece of lint may be placed betwixt the flaps, and a constant irrigation of the exposed surface kept up for some time by threads passing from a vessel containing cold water. This practice is the best that can be resorted to also in accidental wounds, those of the incised kind, that are fresh, and bleed freely. In these last, after hæmorrhage has entirely ceased, applications of an agreeable warmth should be substituted, such as poultice of bread and water, or, what is much to be preferred for its simplicity, lint of thick texture, and of sufficient size to cover the wound, soaked in tepid water, and that overlaid with an ample piece of oiled silk, to prevent evaporation. Heat and moisture, by which qualities a poultice produces its soothing and beneficial effects, by which the surface is relaxed, its capillary circulation encouraged, and discharge promoted, are thus amply afforded, without any of the weight, putrefactive fermentation, stench and filth, which is inseparable even from the best and most scientifically contrived epithems and cataplasms; of course the approximating such wounds is effected, as much as possible, by position, and by the same means the return of blood is favoured, and engorgement of the vessels and inflammatory swelling prevented in a very great degree.

He goes on to observe:—

"As the solution of continuity is filled up, the edges are approximated, and during the cicatrisation the same means must be persevered in, in order to promote the process. Support may be given in some stages of the cure by bandage, and occasionally by plasters; care must, however, be taken that this is not partial. It is seldom, indeed, that any good is seen to arise out of the drawing together by plasters of the edges of a recent solution of continuity, during the process of granulation and cicatrisation. The contraction of the part takes place naturally, and generally with sufficient rapidity. It is often retarded by the means which are foolishly employed to hurry it on. The granulations are absorbed, the surface of the sore becomes foul, the discharge thin and offensive, and if the plan is persevered in, inflammation of the surrounding skin will follow, with extension of the sore by ulcerative absorption. There is a period, however, at which the edges of a solution of continuity in a state of suppuration may sometimes be approximated and retained with every prospect of abridging the cure, provided the surrounding parts are in a sufficiently lax state; viz. when the discharge begins to thicken and diminish in quantity, when the granulations are florid, small, and acuminated; then, indeed, rapid adhesion often takes place."

We must say that we think Mr. Liston rather underrates the effects of judicious strapping, as well as of stimulating applications. Of course both the one and the other may be abused as well as mismanaged. But, properly employed, they do appear to be not altogether useless.

Our author proceeds:—

"When the coverings have been smoothly and cleverly cut, and in the direction of the fibres, when there is an abundance of these as regards the deeper parts, then, after the surface has become glazed, (the vessels having been tied, and the cold water assiduously applied for some hours,) the surrounding skin previously shaved, is made thoroughly dry; coagula are removed, the edges are put carefully and neatly into contact, and retained by narrow slips of adhesive plaster placed at intervals; that commonly used is not well suited for the purpose; it does not retain its hold sufficiently long; it is loosened by discharge, it heats the surface and often gives rise to erythema. For many years a better sort of plaster has been used very successfully by me and some of my colleagues in the Royal Infirmary of Edinburgh, and in the North London Hospital, as well as in private practice. It is composed of a solution of isinglass in spirit, and may be spread for use, as occasion requires, on slips of oiled silk; on silk glazed on one side only, and on the unglazed side. But this plaster can now be had, ready for use, admirably prepared by Messrs. Fisher and Toller, Conduit Street. It is cut into strips of the desired breadth, and the adhesive matter dissolved immediately before it is employed by the application of a hot moist sponge. This composition becomes sufficiently adherent; it keeps its hold often to the end of the cure, and it is quite unirritating. Being transparent, the plaster does not prevent any untoward process that may be going on underneath from being observed, and if any fluid collects, an opening can be snipped for its escape. If, as may be often deemed necessary, a few points of suture have been made, these can be removed by cutting the thread shortly after the fixing of the plasters, and within twenty-four hours. No other dressing need be employed in the first instance—no compress, no pledget, no bandage. These applications may give rise to unpleasant effects, they are not wanted, and do no good; they in no way promote the object in view, viz. the union of the wound, and the cure of the patient at the end of eight or ten days. A roller may be applied in a few days after some amputations, in order to encourage the subsidence of any slight œdema that may have arisen, and to bring the stump into a nice form. At an earlier period, the use of any dressing whatever is productive of pain; it heats the part, and encourages discharge of blood and formation of matter. The discharge that does take place in the light and simple mode of managing wounds here recommended, is wiped from the surrounding skin, as it flows out, and from the taffeta or glazed cloth on which the part lies."

The isinglass plaister, to which Mr. Liston alludes, is certainly a very excellent application. Its introduction into use must be considered an improvement.

Division of the Lateral Ligament for Dislocation of a Phalanx.

Mr. Liston observes:—

The reduction of luxation of the proximal phalanx of the thumb, on the posterior aspect of the metacarpal bones, has occasionally been found puzzling enough, and it is never accomplished without some little trouble. This difficulty has been attributed to the action of the short flexor, and to the tight embrace of the lateral ligament round the neck of the bone. By making the extension across the palm of the hand, the one obstacle is done away with; but the strength and rigidity of the ligaments are not in general easily overcome. Before the reduction has been effected, it has been found necessary to divide one of the ligaments; the external is most easily reached and cut across by the introduction of a narrow-bladed knife (such a one as is used by some practitioners of surgery for exploring tumors) through the skin at some distance, and by directing its edge against the resisting part.

In the "Elements of Surgery" I have related one case of a very old man, much intoxicated, in which it was found absolutely necessary to perform this operation before the reduction could be accomplished; and shortly before giving up the charge of the Edinburgh Hospital, a lad, under fifteen years of age, was admitted with luxation of this joint of fourteen days' duration. In his case it was impossible to effect the replacement until the ligament had been divided. He returned within a week, having again fallen and displaced the bones. The reduction was on the second occasion made readily enough.

Our author does not appear to be aware of the influence of the glenoid ligament in preventing the reduction of the dislocation of the distal end of the metacarpal bone or phalanx on the palmar surface of the proximal end of the phalanx in connection with it. That operates more powerfully, from its anatomical construction, than the lateral ligaments, indeed the latter being partially implanted into the former they co-operate in occasioning the difficulty. The division of the lateral ligament cannot be altogether free from hazard, and perhaps it would be better to avoid it in persons of an irritable, or of otherwise a bad habit of body.

The Gum Splint for Diseased Joints.

A variety of methods have lately been resorted to for insuring the quietude of diseased joints. Every body knows the old paste-board splint—now we have the undressed leather splint—and the white of egg splint—and the gum splint—and a dozen more. The following is Mr. Liston's description of a gum splint.

A splint, similar to that used by the old surgeons, composed of some soft substance, as tow and albumen, described by Scultetus, (and delineated by him even to the eggs on a platter,) is applied; we use coarse soft lint soaked in a strong solution of gum acacia; it is laid on in strips over the side and pelvis, from the short ribs to the knee, and made to embrace the limb fully. A layer of dry lint is first applied, and then two or three others, soaked in the mucilage, follow; this is covered by a fold or two of coarse calico, and the whole is retained by a roller. In cases where the limb has been retained for a long period adducted and bent, and where some little trouble and uneasiness have arisen in placing it in a favourable position, it will be advisable to preserve it so by the use of the thigh-splint, as for fracture, during some twenty or twenty-four hours, until the composition dries, and the splint has adapted itself closely to the parts.

The gum splint can be made of any form, so as to allow of its being taken off, trimmed, and lined with wash-leather, or protected with a layer of oil-silk and reapplied with a clean bandage. It can also be fashioned so as to leave any part exposed, in order to admit of dressings; the discharge from issues and abscesses can thus be allowed to escape, and the parts attended to without disturbing the limb. Two splints can be formed instead of one; in fact, the apparatus can be varied as circumstances demand, and it is applicable in a great variety of cases, and to any articulation. A perfect mould is formed of the part, and this can be applied with any degree of tightness that is suitable and comfortable to the patient.

Removal of the Sterno-mastoid Muscle.

"I had once occasion to remove the sterno-mastoid muscle of one side, involved in a sarcomatous tumour from its origin to its insertion; the most fastidious critic will not refuse the term sarcoma to this morbid growth, though, in all probability, the muscular fibres may have been involved secondarily. The tumour was limited by a cellular sheath, yet the dissection was difficult and extensive. The patient made a good recovery, and no mal-position of the head followed. The trapezius, probably, of the opposite side had done the duty of the diseased muscle for a considerable time before its removal."

Ligature of the Carotid, prior to Operations on the Jaws, &c. unnecessary.

"The operation has been resorted to, in order to arrest the growth of tumours of the face and jaws, for which purpose it must be ineffectual; and it has also been performed as a preliminary step to the removal of such diseases. The suffering of the patient is thus much prolonged, without his safety being at all enhanced, or the dissection of the tumour in any way facilitated. The flow of blood is quite as effectually commanded by pressure with the fingers on the common carotid of the affected side; pressure on both at the same time has given rise to the most alarming convulsive movements in some cases, after great loss of blood had occurred. Even pressure on one trunk is not demanded in many of the operations in question. I have, I believe, had fully as much experience in the management of tumours of the mouth and jaws, and of the face and neck, as any surgeon in this or any other country, and have never seen occasion to tie the carotid previous to or during the operations for their removal. I have never regretted omitting this supposed precautionary measure."

Is temporal arteriotomy preferable to cupping? "The propriety of taking away blood from this vessel in particular cases, in preference to abstracting it from the general mass of circulating fluid by opening a vein, cannot be discussed here; as a mode of local bleeding, it is certainly to be preferred to the scarification and cupping of the temples. This last is more painful, and produces deformity; the same troublesome consequences, besides, result occasionally as from arteriotomy. It is not long since I assisted my colleague, Mr. S. Cooper, in operating on a case of aneurysm of the anterior branch of the temporal, consequent upon the application of the cupping-scarificator."

We do not feel quite disposed to go with Mr. Liston here. So far as we have seen, if bad consequences follow cupping once, they succeed arteriotomy twice or thrice. Cupping is, we think, the *least* painful. Cupping entails no pressure or fall afterwards. And cupping, after all, in many cases, is the most effectual.

A Case of Spontaneous Aneurysm of the Brachial, at the Bend of the Arm.— "Disease of the coats of the arteries of the upper extremity, to a great extent, is not common, and very few cases of true aneurysm lower than the axilla are met with or mentioned in surgical works. The surgeon will accordingly seldom be called upon to perform any operation for spontaneous aneurysm (aneurysm from disease of the coats) at the bend of the arm. I have treated but one such case in the person of an old ship's carpenter. Whilst at work as usual, he felt something snap in his arm, a pulsating tumour was soon after noticed, and before I was asked to see him, by Mr. Cheyne of Leith, it had attained, during four months, fully the size of a hen's egg, and was evidently in part made up of solid matter. The brachial was tied, and everything went on favourably."

Aneurysm of the Radial Artery in the Palm, cured by Ligature of the Radial and the Ulnar.—This case was communicated to Mr. Liston by Mr. Pilcher, the operator.

"A working goldsmith, about forty years of age, of a gouty diathesis, had a tumour formed beneath the ball of the right thumb; it was mistaken for an abscess; on careful examination, I discovered it to be an aneurysm, and believed it to be situated between the abductor pollicis and abductor indicis, and to be a disease of the radial artery at its terminal division, probably induced by the repeated, though slight, blows from the handle of the hammer, which his occupation constantly obliged him to use. I proposed to tie the radial and ulnar arteries immediately above the wrist, provided the ligature around the radial was ineffective in diminishing the tumour and arresting its pulsation. My expectations were realised; the closure of the radial artery was attended with diminution in the size and pulsation of the tumour, but still both remained to rather less than half the previous degree. I immediately tied the ulnar, when the tumour was much reduced in size, and the pulsation completely: slight secondary hæmorrhage occurred from one of the arteries at the seat of the ligature two or three days after the operation, which was arrested by cold water; the case progressed without any further untoward symptom, and was attended with a perfect cure."

New Noses.—Mr. Liston speaks very warmly in favour of this branch of art. There can be no doubt of the advantage of a good nose. It is almost, of itself, a passport to society. As the song says,

"Although 'tis confess'd that the prejudice goes
Very much in the favour of wearing a nose,
Yet a nose shouldn't look like a snout."

Much less should a nose be wanting altogether. Mr. Liston protests:—

"Were those who seem to despise the repairing of such deformity by surgical interference, holding it as a frivolity and little better than operative quackery, to witness the utter wretchedness of the mutilated object, and how eagerly he would cling to any hope, however slender, of bettering his condition, prejudice against rhino-plastics ought rapidly to thaw before the warmth of aroused feelings of humanity. If not, put the scoffer in the place of the patient,—let him lose his nose, reputably or otherwise, allow him some weeks of consequent misery and degradation, then bring him in contact with a skilful and dexterous surgeon, who despises no part of his professional practice that is to benefit his fellow-creatures, and thinks it not beneath him to make noses as well as stumps, and there can be little doubt that ere long the rhino-plastic art will have obtained an addition to the list of its supporters, of a sure and zealous proselyte."

Certainly the Chapter on new noses, (which by the bye beats Sterne on noses all to sticks) is well adapted to serve the nasal cause, for it gives an excellent account of the history and method of making noses, Roman, Greek, or Pug. Mr. Liston, indeed, is modest. He disclaims classical noses.

"If properly constructed, though not in accordance with either the Roman or Grecian contour, as their predecessors may have been, still they are noses to do well in the world. They are literally very passable noses; for many have I known to pass those of my own making, without remarking anything particular in the features of the wearers. And surely none can deny that the worst made nose is infinitely superior to the horrid cavern which previously struck the passer-by with pity and disgust. As a fair sample of the manufacture, I annex representations of my first case, before and after operation."

For the mode of carving the nose we must refer to the work itself, which affords very ample and very satisfactory information. We extraet only the concluding observations:—

In all these operations on the face, there is no inconsiderable risk of erysipelas; and the surgeon must not only be on his guard against this untoward occurrence, but be prepared to treat it actively. To prevent it, as well as to promote adhesion, the wounds, as has already been stated, are brought together simply by suture, all heating and heavy dressings are avoided, and the sutures are cut out as soon as they can possibly be dispensed with. Notwithstanding these precautions, and attention to the state of the system, particularly in securing healthy action in the primæ viæ, should erysipelas occur, besides the usual constitutional treatment, blood must be taken freely from the transplanted part, and its neighbourhood, by punctures. If the attack be mild, it will yield to this treatment; but if infiltration be going on, or even threatened, recourse must be had at once to free incision, not only in the neighbourhood of the transplanted part, but in that part itself. At this the surgeon must not hesitate; for there is no risk, under the circumstances, of the vitality being lost in consequence of even very free incision; and it is now well known that wounds in the transplanted parts heal with more rapidity than in the original formations. The incisions should be made at an early period of the accession, it being of the utmost importance to cut the disease short; for erysipelas, so induced, not only interferes with the process of adhesion, and endangers either partial or total sloughing of the part, but, as experience has shown, may terminate fatally.

Mode of removing Encysted Tumors.—No dissection is required for the removal of these encysted tumors of the scalp, unless indeed they have obtained an enormous size, and, from long residence and other causes, adhere firmly. In general, when the swelling is about the size of a filbert compressed, or even the bulk of a chestnut, it can be taken out, and lifted, as it were, by the forceps from its bed of fine cellular tissue upon merely dividing the super-imposed scalp. The least painful and most expeditious mode is to transfix the tumor with a narrow bladed knife in the direction of the fibres, with the back of the instrument directed towards, the cranium, and to divide thus at once the cyst and skin by cutting outwards, a little of the hair having been previously clipped off the swelling. The edges of the incision are now slightly separated with the forefinger and thumb of the left hand, and the common dissecting forceps (an instrument seldom well made) used for seizing the edge of the cyst and extracting it. The few drops of blood that escaped are wiped up, and no dressing whatever need be applied; some five or six tumors may thus be removed, without much pain to the patient, at one sitting. Sometimes a small clot fills the cavity, and may require being squeezed out a few days after the operation. When the tumor is very small, a slightly curved sharp-pointed knife, the edge on the concave aspect, will be found to answer best. Unless the tumor has attained an enormous size, and has adhered firmly, no portion of skin should be removed.

Encysted tumors about the forehead and eyebrows are seldom permitted to attain any large size, but their adhesions are generally firm, and prove troublesome; dissection is sometimes required in their removal. The difficulty will be much obviated by making the first incision sufficiently free. The cyst is thus fully exposed, and may be removed unopened. These tumors contain curdy or sebaceous matter, with hairs. These are loose, or are seen springing from the inner surface of the bag. The extirpation of such tumors must be clean and perfect, otherwise the secretion is continued, and, as a consequence, there is reproduction of the disease, or else a fistulous opening continues furnishing thin gleety discharge, and only got rid of by incision and removal of the remnant of the secreting surface.

Encysted and Solid Tumors of the Eyelids.—Mr. Liston's account of these is not bad:—Solid and encysted tumors are frequently met with about the eyelids; the former generally grow from the conjunctival surface, the latter are situated betwixt the two layers, and often seen to be developed in the substance of the cartilage. The solid tumor may be fully exposed by everting the eyelid; it is seized with a fine hook or forceps and dissected off, along with the portion of mucous membrane from which it proceeds. Some care will be required in removing such tumors growing from the inner corner, (encanthis,) if they have attained considerable size, in order to avoid interference with any part of the apparatus for conveying away the secretions. The cysts in the eyelids generally contain a glairy fluid, they are thin and very adherent, they attain a considerable size, as regards the part in which they are situated, and occasion deformity and inconvenience; the skin is projected and often discoloured; sometimes more than one exists in the same eyelid. They occur equally in the lower and upper lid, perhaps most frequently in the latter. There is no possibility of dissecting out the cyst entire, and, in attempts to do so, a perforation has been made through both skin and conjunctiva without the object having been accomplished. The correct and effectual procedure is, after everting the eyelid, (and this can be done perfectly well, after some little practice, as with the view of attacking granulations on the surface of the upper lid, or removing foreign bodies, by a dexterous application of the fingers, and without the aid of a probe or other instrument,) and exposing the little projection within, to open this pretty freely with the point of a fine knife, a crucial incision may be made if the cyst be large, the contents escape, and the bleeding is allowed to cease. The cavity is completely cleared, and the sac disturbed and lacerated by turning about a sharp-pointed probe in its cavity. If a thorough and radical cure is desired, it will be advisable to take more effectual means for the obliteration of the cavity, and for this purpose a small pointed piece of the potassa fusa may be introduced into it for an instant. This must be done with great caution, the melting caustic being washed away with a bit of lint dipped in vinegar and water, and the bulb of the eye afterwards protected for a short time by the interposition of a small slip of lint, or old linen, smeared with oil, or some mild liniment or ointment. The safest and best mode of applying the caustic is with a very small hollow ball probe.

Plugging the Posterior Nares.—This is easily effected by the introduction of a ligature from the mouth forwards into the nostril: a loop of silver or other wire will answer as well as any of the complicated instruments sold for the purpose of conveying the ligature. This is passed along the floor of the nostril from before backwards; it is seen and laid hold of by the fingers, or blunt hook, or forceps, in the pharynx, and brought forward; to this is attached a strong thread ligature, which is drawn into the passage by the removal of the wire. To the middle of the ligature, a piece of lint, the bulk of the first joint of the thumb, larger or smaller, according to the size and sex of the patient, is attached in a noose. This is conducted by the finger behind the velum, and pulled firmly into the cavity. The anterior opening is then plugged with lint also. The dossil is easily removed in a day or two, after washing out the coagula, by pulling at the string and assisting in its dislodgement, by the introduction, from before, of a strong blunt probe. It is seldom necessary to adopt this proceeding after operations for polypus; but it may be, and is occasionally, required for the arrestment of spontaneous epistaxis, after all other means, local and general, have failed.

We have found a common gum catheter answer better than a loop of wire, as a means of carrying the string from the posterior nares outwards. It is more flexible and gives less uneasiness.

Excision of the Tonsils.

Mr. Liston very properly reprobates the ligature. He recommends excision, and performs it so:—the patient is placed opposite a strong light, the surgeon depresses the tongue with the fore-finger of one hand, and seizes the body of the gland with the vulsellum held in the other. He then introduces the narrow, straight, blunt-pointed knife, which he has held in readiness betwixt his lips, with its edge directed upwards under the gland, and, by a few gentle sawing motions, severs it on a level with the folds of the velum. The instruments, knife, or vulsellum, must be held in the right or left hand, according to the side operated upon. Immediate relief follows this proceeding; it is not by any means so painful as the removal of a tooth, and is not attended with greater loss of blood.

Mr. Liston makes no mention of a very good instrument invented by Dr. Warren, and brought by him to England. We have succeeded in two instances in gradually getting rid of a superabundance of tonsils by (we think) Mr. Cusack's method. It consists in applying a stick of lunar caustic to the tonsils, and pressing it firmly against the gland for a minute or two. A succession of small sloughs is thus produced, which removes the unnecessary portion of gland without pain or any sort of inconvenience. Excision is often no joke in children.

Foreign Bodies in the Nostrils.

Foreign substances are often lodged deeply in the nasal fossæ of children, more especially in the fissure betwixt the anterior and posterior cavities, such as seeds, kernels of fruit, glass beads, &c., and they, often enough, are impacted more firmly by awkward and ill-directed efforts to remove them by forceps. The membrane swells and becomes soon tender. The foreign body may absorb moisture and increase in size, and the difficulty of getting rid of it is thus much increased. At any period, by placing a small bent scoop or curette behind the substance, it can be readily enough dislodged; it may slip into the throat, but generally it can be made to appear at the anterior opening. The patient must be firmly secured and a good light chosen; the extraction can then be effected without much pain or trouble; his struggles and screams are disregarded, for the object must be accomplished in the first instance. The difficulties are all increased by delay and repeated futile attempts.

Foreign Bodies in the Œsophagus.

Small sharp substances, as pins, needles, fish-bones, are generally fixed in the mucous membrane, over the root of the tongue, by the base of the arches of the velum, and within reach of the finger; they can generally be disentangled and removed by the skilful use of a pair of long and slightly-bent forceps guided by the finger. Foreign matters, of large size, impacted in the narrow part of the canal, can be, if of soft consistence, pushed down by the introduction of a probang, a small bit of sponge, or what is better, a small ovoid and smooth piece of ivory, firmly secured on a whalebone rod. In introducing this instrument, the head and face are so placed, well held back, that the canal is brought pretty much into a straight line. The patient is desired to make an effort to swallow as the ball is passed over the root of the tongue; it is thus easily slid over the epiglottis, and enters the gullet. The pressure must be very gentle on the obstructed part. If the passage has been previously constricted, a smaller instrument of the same kind may be tried, or an œsophagus bougie substituted. Hard an angular bodies must be brought upwards, and for the purpose of seizing these, long, bent forceps, one pair made to open laterally, another from behind forwards, will be required to insure a successful issue to the attempt. The finger is passed as a guide, and the same precautions are taken to avoid interference with the glottis, as in the use of the probang. The cause of the obstruction is felt, grappled with, and seized. The extraction of pieces of bone, or other sharp and irregular bodies, as glass or broken china, must be cautiously gone about; the dread of still further injuring important parts being before the eyes of the surgeon. Flat and smooth substances, coins, &c., may be disentangled readily by a flat, blunt hook, fixed on a piece of whalebone, or by a piece of thick, flexible wire, twisted and bent to a convenient form. A foreign substance has been so fixed in the gullet that it has been considered impossible or unsafe to dislodge it upwards or downwards. Nourishment could not be received into the stomach, and the respiration, it has been thought, might thus be interfered with by pressure on the posterior membranous surface of the air-tube. But the obstacle is almost uniformly lodged behind the cartilages of the larynx, which are pretty incompressible. In these cases an incision has been made into the œsophagus from the side of the neck, on its left side, the foreign body has been felt, and care being taken to steer clear of the vessels and nerves, more especially the inferior thyroid, and the recurrent, the tube has been cut through and extraction accomplished. The necessity for this proceeding can seldom arise.

Here we must pause. There are a thousand excellent hints in this volume, which is an eminently practical manual of operative surgery, and ought to be in the hands of every surgeon. The rapid sale of the first edition shews the estimation in which it is held, and we venture to prophecy an equally rapid sale of this and of future ones. We recommend the book in the most cordial manner to all our surgical readers—and to the old as well as to the young.

☞ The Second Edition of Mr. Liston's "Elements of Surgery" came to hand while this sheet was passing through the press. We shall notice it in our next.

II. A PRACTICAL TREATISE ON THE DISEASES OF THE EYE. By *William Mackenzie*, M.D. Surgeon Oculist in Scotland in ordinary to Her Majesty, Lecturer on the Eye in the University of Glasgow, and one of the Surgeons to the Glasgow Eye Infirmary. To which is prefixed AN ANATOMICAL INTRODUCTION EXPLANATORY OF A HORIZONTAL SECTION OF THE HUMAN EYEBALL. By *Thomas Wharton Jones*, Surgeon. Third edition, octavo, pp. 923. Longman and Co. London.

We find the following advertisement to the present edition of this excellent work:—

The demand for this *Treatise on the Diseases of the Eye* has been much greater than the author had any reason to expect. Since its first appearance, two large editions have been exausted; it has also been reprinted at Boston in America, and a German translation of it has been published at Weimar.

In the present edition, new matter, which would have extended to about 140 pages of the second, has been added; but, by enlarging the page, the work has been kept within its former bounds. The whole has again been carefully revised, and such alterations made as have been suggested by the author's continued experience, or by his perusal of the writings of others. He trusts that it will be found, that, on every occasion, he has endeavoured to treat his fellow-labourer's in the same field with becoming deference and perfect fairness; never appropriating to himself the labours and improvements of others, but acknowledging openly what he has borrowed.

His friend, Mr. T. Wharton Jones, has revised his *Horizontal Section of the Eyeball*, and *Anatomical Introduction*, comprehending in the latter the most recent discoveries in the anatomy of the eye. Mr. Jones has also furnished drawings for a number of new wood-cuts in the body of the work, for which as well as for various practical hints from him and several other medical friends, the author takes this opportuninty of returning thanks.

In its present shape, this must be regarded as the most complete Treatise on the Diseases of the Eye which we possess. Its value is enhanced by the wood-cuts, a mode of illustration which must be daily more employed in elementary works. In a future edition, it might be well to add some coloured lithographic representations of some of the diseases of the eye. Were this done the work would be even more valuable than it is—no trivial commendation. We recommend this edition to our readers in the strongest manner.

III. ELEMENTS OF THE THEORY AND PRACTICE OF MEDICINE: DESIGNED FOR THE USE OF STUDENTS AND JUNIOR PRACTITIONERS. By *George Gregory*, M.D. Fellow of the Royal College of Physicians, in London; Physician to the Small-pox and Vaccination Hospital; and Lecturer on the Principles and Practice of Medicine in London. Fifth edition, pp. 750. London, Renshaw, Strand.

Our old friend Dr. Gregory has appeared with *his* New Edition on the scene. We are always happy to meet him, and more particularly on such an occasion. His work has ever been a favourite, from the pleasing character of the style and the perspicuity of the matter. And we venture to say it will now be more a favourite than ever. In his preface, Dr. Gregory informs us:—

The demand for a fifth edition has afforded the author an opportunity of making some alterations in the work, which he hopes will give it additional value. The several diseases of the human body have been thrown into a new arrangement. The distinction between acute and chronic diseases has been abandoned, and a classification has been adopted better suited to the existing state of medical science. The *formulæ medicamentorum* scattered throughout the work have received some additions, and have everywhere been adapted to the nomenclature of the new London Pharmacopœia. Five new chapters have been added—namely, on Cachexia, Hypochondriasis, Cynanche Cellularis, Otitis, and Furuncular Inflammation. The results of the author's more recent experience have been incorporated into the text, and such other information introduced as appeared calculated for elementary instruction. The industry and talents of cotemporary writers, however, it must be observed, are chiefly displayed in matters of minute detail, which, though full of value to the practising physician, are scarcely fitted for a work the scope of which does not extend beyond the fundamental principles of practical medicine.

Dr. Gregory makes some other observations in his Preface, which may claim a passing notice. He remarks for instance that—

Fifty years have elapsed since the death of Dr. Cullen, during which long period a general spirit of improvement has pervaded every branch of medicine, and many important changes have taken place in the opinions entertained regarding the origin of diseases, the modes of detecting them, their seats, and effects. These constitute what may be called the great body of pathology, and it is here that we shall find those improvements which modern medicine may boast. Nor must it be supposed that improvements in pathology are necessarily followed by corresponding changes in the methods of treating disease. These, it has long been observed, have continued nearly the same through every variety of pathological doctrine. It is enough to say that the powers of medicines do not necessarily keep pace with the powers of the human mind in investigating the causes and tracing the relations of diseases.

Of the truth of this remark, at all events in one sense, there can be, we apprehend, no doubt. Our specifics have not increased in number, nor has our confidence augmented in degree. Yet our treatment of diseases has been much improved notwithstanding. In the first place, all that relates to the prevention of disease is much better understood. In the second, the operation of medicines is much more accurately comprehended; witness the use of mercury in inflammatory diseases, as well as in venereal, the exhibition of opium, &c. In the third place we have new medicines of great value, or new preparations of the old. Both in medicine and in surgery, it would be unjust to say that the treatment of disease has not materially improved, though we quite agree with Dr. Gregory that it is in the discrimination of disease that most progress has been made. Speaking of the *Sources of Disease*, Dr. Gregory observes :—

" Great additions have been made since Dr. Cullen's time to our stock of knowledge regarding the sources of disease, both those which are exterior to the frame and those which have their seat within the human body itself. The doctrine of morbid poison, miasma, and contagion, has been much extended; but perhaps there is no branch of pathology which is still in so defective a state. The remarkable differences of opinion entertained on all questions of contagious influence are but little creditable to an age which may boast of such precision in other departments of the science. Two diseases unknown to Dr. Cullen have sprung into notice since his time; namely, Cow-pox and Malignant Cholera. With regard to those sources of disease which exist within the frame itself, we may specify the following as being little, if at all, known to the writers of Cullen's age :—spinal irritation; disease of the brain leading to purulent deposits; spontaneous inflammation of veins and arteries, and the several varieties of disorganized heart."

It were indeed to be desired that medical philosophers would agree on some first principles in determining the laws of contagious diseases. Unfortunately, there are difficulties attendant on our means of investigating the subject, independently of the difficulties that are inherent in itself.

We are glad to perceive that Dr. Gregory does justice to auscultation and percussion in diseases of the chest. His testimony in their favour is the more to be prized, because he was disposed at first to question their utility.

"Much has been done, especially during the last twenty years, towards the more accurate detection of disease. Some progress has been made in the minute diagnosis of diseases of the brain, but it is in the disorders of the thoracic viscera where this great improvement is most manifest. The several diseases of the heart and lungs are now distinguished with an accuracy which would have surprised the most experienced physicians of former times, though one of them (Baglivi), possessed of more than ordinary sagacity, foresaw its possibility. For the original discovery of the healthy murmur of respiration, and of the several modifications which it undergoes during disease of the chest, we are indebted to the acuteness and patient observation of Laennec. To the same enlightened pathologist we owe much of our knowledge regarding the sounds which issue from the heart during disease. This branch of the great subject of medical acoustics is still pursued with diligence, and gives the promise of ultimately attaining to great perfection."

We were always of opinion, and still are so, that auscultation of the heart will ultimately furnish more satisfactory data than auscultation of the lungs. The observations we shall now quote (and we conclude by doing so) on pathology and on morbid anatomy exactly represent the sentiments we have more than once expressed.

"This improvement in modern pathology may be considered as commencing with Dr. Baillie, who succeeded in directing the attention of physicians to the study of morbid anatomy more effectually than had been done by Morgagni, his laborious but diffuse predecessor in the same department of science. It must be acknowledged, at the same time, that the example thus set has been diligently followed in France; and to the zeal of the French pathologists, and the abundant opportunities afforded by the French Hospitals, we are chiefly indebted for the increased amount and accuracy of our information regarding the changes of structure effected by disease.

To such an extent has this study been lately followed, that the term pathology has been, by some, considered as identical with morbid anatomy, and the attention of students has been fixed upon the dissecting-room, as if the elements of pathology could there only be properly studied. This, however, (as a most able writer and acute pathologist has pointed out,) is a manifest error in science. The alterations in structure produced by disease are only one of the elements of our reasoning on the nature of diseased actions. Many other considerations are equally necessary to their elucidation, such as the external causes of disease, the nature of the leading symptoms, their consequences, local and general, and the effects of remedies. These severally furnish the proper elements of that inductive reasoning by which we determine the laws of the animal economy during the presence of disease.

It is also, as the same author observes, a great practical error to fix the attention of students too exclusively upon the *effects* of disease, because in many instances their characters during life are not perceived until the latest and least remediable stage of the disease. The most important part of the history of a disease is that group or assemblage of symptoms by which its nature and seat may be known before any decided lesion of structure has taken place; for this is the season of successful practice, and the mind of the physician should never be diverted from those primary objects of his pursuit,—the power of remedies, and their application during life, to control diseased actions, or to relieve the urgency of particular symptoms."

We have skimmed over the volume, and it seems to us amply to bear out the promise of its author. It is a work admirably calculated for students, with whom we are sure it will be an especial favourite.

ELEMENTS OF NATURAL PHILOSOPHY; BEING AN EXPERIMENTAL INTRODUCTION TO THE STUDY OF THE PHYSICAL SCIENCES. By *Golding Bird*, M.D. F.L.S. F.G.S. &c. London, John Churchill, 1839.

DR. BIRD is a young physician of very high promise. We know of few in the profession more likely to adorn it by either intelligence or industry. Such a work as the present may come naturally from his hands, and deserves to be, and will be well received.

Dr. Bird informs us in his preface that—

"The following manual is chiefly intended as a text-book for the student whilst attending lectures on physics, or as preparatory to his entering upon the study of larger, and more elaborate works. With this view it has been written; and as the great difficulty experienced in executing this task has arisen from the necessity of knowing, not what to insert, but what to omit, whenever a doubt has arisen on this point, it has been determined by a reference to the amount of knowledge required of the student by the different English and Scottish medical boards."

He adds:—

"I have been greatly indebted to several writers in the French and German languages, for many suggestions and illustrations, of which I have never hesitated to avail myself whenever they appeared to divest any subject of obscurity, or to add to its interest. To the 'Précis de Physique' of Biot, the 'Eléments de Physique' of Pouillet, the 'Traité de Physique' of Hauy, the 'Positions de Physique of Quetelet, and the 'Grundriss der Experimental-Physik' of Kastner, I have been peculiarly indebted for several illustrations, some of which have not, I believe, previously appeared in an English dress.

Having thus explained the object and unpretending character of this volume, I trust enough has been said to blunt the edge of criticism, should such, per chance, be levelled against it. The critic himself, I would beg to remind of the celebrated observation of Horace—

> 'Sunt delicta quibus non ignovisse velimus,
> Nam neque chorda sonum reddit quam vult manus et mens;
> Nec semper feriet quodcunque minabitur arcus.'

Those readers who desire further information on the subjects treated of in this work, and have not the assistance derived from attendance on lectures, may, if only a popular acquaintance with them be required, refer to the very elegant, although as yet unfinished, 'Elements of Physics' of Dr. Arnott, or to Sir David Brewster's edition of 'Euler's Letters to a German Princess.' Those who require a more profound acquaintance with these important subjects, should consult the books referred to in the body of this volume, as well as to the treatises published by the Society for the Diffusion of Useful Knowledge. The series of Essays written by the professors of King's College, London, now in the course of publication will also furnish most valuable comments on this, and other elementary works."

The work consists of twenty-five chapters, and a preliminary discourse. We believe that the best way of giving an idea in the smallest space of its character will be to present the titles of the chapters.

The *first* is on the General Properties of Atoms and Masses of Matter.—2d, Attractive Forces exerted between Masses.—3rd, Bodies in Motion, or General Dynamics.—4th, Effects of Gravitation.—5th, Theoretical Action of the Simple Machines.—6th, Fluids at Rest, or Hydrostatics.—7th, Gases at rest, Aerostatics, or Pneumostatics.—8th, Fluids in Motion, or Hydro and Pneumo-dynamics.—9th, Sonorous Vibrations of Ponderable Bodies, or Acoustics.—10th, Magnetism.—11th, Primary Phenomena of Ordinary Electricity.—12th, Consequences of Electrical Induction.—13th, Consequences of Electric Induction.—14th, Phenomena of Atmospheric Electricity.—15th, Voltaic Electricity.—16th, Electro-Dynamics.—17th, Electro-dynamic Induction.—18th, Thermo-Electricity.—19th, Organic-electricity.—20th, General Properties and Catoptric Phenomena, of Unpolarized Light.—21st, Dioptric Phenomena of Unpolarized Light.—22nd, Chromatic Phenomena of Unpolarized Light.—23rd, Phenomena of Double Refraction, and Rectilinear Polarization.—24th, Chromatic Phenomena of Polarized Light.—25th, Optical Apparatus, and the Eye considered as an Optical Instrument.

We commend the book to the medical public. They who would wish to acquire or brush up an acquaintance with Natural Philosophy will spend a few shillings excellently well on this little volume.

NATURAL HISTORY, &c,

I. A History of British Reptiles. By *Thomas Bell,* F.R.S. F.L.S. Professor of Zoology in King's College, London. Illustrated by a wood-cut of each species, with some of the varieties, and numerous vignettes. Van Voorst. Part III. completing the work.

This interesting account of British Reptiles is now concluded. It makes one of that series of works, published by the enterprising bookseller to the Zoological Society, Mr. Van Voorst. We have often spoken in deservedly favourable terms of preceding Parts. We can speak equally favourably of this. In conjunction with it we may notice the following Parts of other works of the same complexion. The later Parts have not yet reached us. We shall take care to make mention of them to our readers when they do.

II. A History of British Birds. By *William Yarrell,* F.L.S. F.Z.S. Parts XIII. and XIV.

This maintains its character—no slight encomium. The chough and crow, the raven, and the rook, *caw* in the pages before us—and the jackdaw, the jay, and the woodpeckers are there too.

III. A General Outline of the Animal Kingdom and Manual of Comparative Anatomy. By *Thomas Rymer Jones,* F.Z.S. Professor of Comparative Anatomy in King's College, London. Part VII.

This very useful as well as agreeable work holds on its way. The execution is equally creditable to author and to publisher. The present Part is occupied with insecta, arachnida, and crustacea.

IV. Supplement to the History of British Fishes. By *William Yarrell.* Illustrated with wood-cuts. In two Parts.

It is indeed gratifying to see this interest in Natural History—we trust that medical men will be foremost in evincing it. From the nature of their studies they are adapted to relish and to advance it. We think this series of publications well calculated to foster such a taste.

Spirit of the Foreign Periodicals.

On the Duration of Human Life.

There is a very elaborate paper in a recent number of the Bulletin Belge on this subject by Dr. *Bellefroid,* who seems to have devoted much time and study to statistical researches. The following extracts will be read with interest.

Duration of Generations.

It is commonly believed that a generation lasts upon an average from 30 to 33 years, and thus that there are usually three generations, following each other, in the course of a century. The enquiries of M. *Villot,* the keeper of the Archives of France, confirm the truth of this opinion. From these it appears that the duration of a generation, in the *male* sex, is very nearly 33½ years among the upper classes of the Parisians, who have preserved their family records.

It is to be observed, however, that what M. *Villot* understands and means to denote by the expression *duration of male generations* is the interval lapsing between the birth of the father and that of his eldest son.

It would seem, therefore, that the duration of a generation—taking it in this sense—is very nearly the same as the medium or average duration of life in the country. In most of the countries of Europe, this may be estimated at 30 years, or thereabouts. Dr. *Caspar* of Berlin has with Germanic industry endeavoured to make calculations for the entire population of the world. He reckons the population at 960 millions, and the medium duration of life at 33 years: (this last number is certainly much too high.) From these data he concludes that upwards of 29 millions of human beings die annually, 80,000 daily, nearly 3,300 hourly, and 53 every minute. Well indeed may the learned Doctor exclaim, after announcing these awful ravages of insatiate Death, "What then are wars, and pestilences, and battles, and earthquakes, to the great household of creative nature!"

Influence of Sex on the Duration of Life.

The average life of males is in general shorter than that of females at every period of life. Even in reference to still-born children, there are many more such among male than among female births—omitting from our consideration the excess of the former over the latter.

In Belgium, of 2597 still-born children, 1517 were males, and only 1080 were females—a proportion of nearly 15 to 10, while the proportion of the male births to the females is as 15 to 14. The same result has been found at Hamburg, Paris, and Geneva; and we are told that in Prussia, during the years from 1826 to 1831, there were 59,144 still-born males, and only 43,533 still-born females. Dr. *Caspar* has calculated that, if the chances of life were equal in the two sexes, the number of still-born males should not have exceeded 45,709, instead of 59,144. It is certainly not easy to determine the cause of this very marked difference in the mortality of the two sexes at the period of birth. Dr. *Joseph Clarke,* and more recently Dr. *Lombard* of Geneva, have accounted for it by the greater size of the male over that of the female children,[*] and by the consequent greater impediments to an easy delivery.

But, although we admit this explanation, how are we to account for the female sex retaining the advantage at almost every period of life?

In England the probable or insurable life of female children, at the period of birth, exceeds by about five years that of males. It is true that they lose this advantage after the first year, and that their chances of life are even less than those of boys at 4, 7, 8, 9, 11, and 14 years of age; but at 15 years—the age which usually indicates puberty—they recover in part the advantage which they had at the period of birth, and they continue to retain it, with only slight exceptions, till about the 75th year, when the chances of the two sexes are about equal.

The following table will indicate the ratio of mortality among the two sexes, at different periods of life, in Belgium.

AGE.	Loss per cent. among Males.	Loss per cent. among Females.
From 0 to 1 year	22,0	17,6
1 — 5 years	15,0	14,4
5 — 10 years	4,5	4,1
10 — 20 years	5,9	5,2
20 — 30 years	7,5	8,8
30 — 40 years	7,4	7,2
40 — 50 years	5,7	6,7
50 — 90 years	32,0	36,0

From this table it appears that, during the periods of fecundity and of change of life or catamenial cessation, the mortality is greater in the female than in the male sex; but, with these exceptions, the advantage is decidedly in favour of the *beau sexe;* and they scarcely deserve to be considered, if we bear in mind that the number of women, who reach the age of 20 years, is much greater than that of men.

It would seem, however, according to the results of M. *Quetelet's* enquiries, that there is a marked difference in reference to the advantage of female over male life in the inhabitants of the town and country. In the former, the advantage is decided and very considerable—nearly by *eight* years at the moment of birth,[†] and scarcely ever less than *three* years up to the 60th year; whereas in the latter it would appear, if the correctness of M. *Q.'s* statements be confirmed, that the chances are in favour of male life from the first to the fortieth year, and that it is only from this last named to the sixtieth year that female life has the advantage.

The following table of the mortality in a hundred among the two sexes will indicate the differences now mentioned, as observed in Belgium.

---

[*] The following table exhibits the average differences in point of weight and size of male and female children, according to the researches of M. *Quetelet.*

	Weight	Size	Difference kilo.	Difference met.
Boys	3 kil. 20	0 m. 496	0,29	0,13
Girls	2 kil. 91	0 m. 483		

[†] It is supposed that in Geneva the probability of female life is superior to that of males by not less than twelve years, at the period of birth.

Age.	In Towns.		In the Country.	
	Males.	Females.	Males.	Females.
From 0 to 1 month	11,6	8,8	10,8	8,0
0 to 1 year	25,8	20,7	24,3	20,0
1 to 5 years	16,9	16,4	14,1	14,8
5 to 10 years	3,5	3,8	4,3	4,4
10 to 20 years	3,5	4,1	4,9	6,0
20 to 30 years	7,0	6,7	6,7	6,7
30 to 40 years	5,9	6,8	4,4	7,0
40 to 50 years	6,5	6,1	5,5	6,6
50 to 90 years	30,9	35,4	35,8	34,4

From this table it would seem that the country is favorable to the life of children of both sexes up to the fifth year, but that it is rather injurious from this date to the 20th year in males, and to the 50th year in females; for, whilst women of towns lose scarcely *one per cent.* more than men from the 30th to the 40th year—the chief period of fecundity—and the mortality among them remains even below that of the male sex during the period of the ferment of the passions—from the 20th to the 30th year—the loss during the former period among women of the country exceeds that of males nearly *three per cent.*, and during the latter period it is equal.

Whether this difference arises from the over-laborious life, to which the wives of peasants are subjected in Belgium, or from a greater mortality among them during accouchement in consequence of neglect and improper attendance, has not been ascertained.

Be this as it may, it seems now to be very generally admitted that *child-bearing does scarcely, if at all, add to the mortality in the female sex.*

This position seems to be established by comparing the results of reports from lying-in institutions with those of ordinary statistical tables. Of 118,187 women delivered in the Dublin Hospital from the year 1757 to 1828—and let it be remembered that a great many of these were destitute and sick when admitted—one only died in 83; and at Berlin, from 1819 to 1822, there was only one death in every 152 women who were confined; whereas, on an average in the same city, the mortality among men from 20 to 30 years of age is 1.3 in the same number 152. So much for the commonly supposed increase of mortality from child-bearing.

Let us now see whether there are any real grounds of alarm for what has been called the *critical epoch of female life.* According to the researches of M. *Benoiston* at Paris, Berlin, Petersburg, and in Sweden and Switzerland, it appears that the mortality in a hundred among each sex between the ages of 40 and 60 years of life is as follows.

Age.	Men.	Women.
40	8,2	7,7
45	10,3	8,7
50	12,6	9,6
55	14,7	11,1
60	17,7	13,6

So that, if there is in the human race any thing *critical* between the ages of 40 and 55 years of life, it is rather in the male than in the female sex. We may therefore conclude with M. *Benoiston*, that "if we examine the mortality among the female sex from the 40th to the 60th degree of north latitude on a line extending from Marseilles to Petersburgh, and passing by Nevers, Paris, and Stockholm, we shall not find, at any epoch of life from the 30th to the 60th year, a sensible augmentation (of the mortality), beyond what may be expected from the natural effect of the advance of age; whereas, at all the epochs of life in males from their 30th to their 90th year, we observe a considerably greater increase of mortality among men than among women."

It would appear therefore, that there is no real foundation for the common idea that the critical (so called) period of life among the latter affects the rate of mortality in the sex.

It is certainly not very easy to account for the almost uniform greater mortality among males after the period of puberty. Writers have alluded to the destruction of health from the dangers and excesses, both physical and moral, to which the one sex is exposed more than the other, to the havocs of war, to the losses at sea, &c.; but these influences, although certainly not inoperative, are not sufficient to explain the question at issue. M. *Benoiston* has found that a similar excess of mortality in the one sex exists among monks and other male recluses, compared with that among nuns, as is indicated in the following table:—

AGE.	Mortality per cent. among Monks.	Mortality per cent. among Nuns.
30	8,3	7,9
40	9,5	9,2
50	12,8	11,5
60	18,2	15,0
70	22,6	21,5
80	21,3	22,8
90	7,3	11,1

(The results of this table, it will be noticed, corroborate the previous remarks on the rate of mortality at the *critical* period of life in the two sexes.)

The most puzzling part of the whole problem is to account for the greater mortality in the male sex during the first year of life—and, we may add, before birth, as indicated by the number of still-born children—before any of the physical or moral influences, which have been often considered as affording a solution of the difficulty, are brought into play.

We shall now proceed to another topic of this statistical enquiry,

The Influence of Marriage and of Fecundity on the Duration of Life.

Hufeland and *Deparcieux* were the first who affirmed that celibacy shortens life. Dr. *Odier* concludes, from the results of very numerous enquiries and calculations, that the average or medium life of a married woman is always superior to that of an unmarried one, except perhaps in extreme old age; at the age of 20, the difference is at least 10 years in favour of the former. The correctness of this conclusion has been amply confirmed by the researches of M. *Caspar* of Berlin, and also of M. *Benoiston*. The former of these authors gives the following table, prepared from the mortality registers of Amsterdam from the year 1814 to 1826.

MORTALITY IN A HUNDRED.

AGE.	Husbands or widowers.	Unmarried males.	Wives or widows.	Unmarried females.
From 20 to 30 years	3,6	43,1	4,7	26,5
— 30 to 45 —	17,9	27,1	16,5	24,5
— 45 to 60 —	29,2	15,6	22,6	19,2
— 60 to 70 —	22,0	8,1	22,3	13,0
— 70 to 80 —	19,4	4,3	22,9	11,6
— 80 to 90 —	7,0	1,4	9,6	4,1
— 90 to 100 —	0,8	0,0	1,2	0,7

It should be remarked, in reference to the difference of mortality among the married and unmarried men from the age of 20 to that of 30 years, that the disproportion is not really so great as the table seems at first sight to indicate; for in Holland, as in Belgium, the greater number of marriages among men occur at from 28 to 30 years of age; and those persons who marry earlier are generally in easy circumstances—the favourable influences of which on the duration of life we shall presently shew. On the other hand, the apparent excess of mortality among married men, as life advances, will deceive us, unless we keep in mind that at the age—say of 45 years—a much greater number survive among them than among *celibitaires*. It is however remarkable that of an equal number of 100 individuals of each class there survive 27,2 married men at 70 years of age, whereas there remain only 5,7 celibitaires at the same period of life. M. *Benoiston* is of opinion that the *probable* life of a married man at the age of 20 exceeds by 19 years that of a bachelor at the same period of life.

The beneficial influence of marriage on the duration of life is certainly more striking in the male than in the female sex; but even in the case of the latter, it is only necessary to look over Caspar's table to discover that at almost every period of life, even during the periods of fecundity and of the critical change, the advantage is decidedly in favour of married women.

M. *Benoiston* has calculated what he considers to be the chances in favour of married over unmarried men at different periods of life, and the results may be briefly stated in the following table.

Age.	Difference in favour of married men.
30	17 years.
45	18 years.
60	8 years.
70	4 years.
80	1 year.
90	0 year.

(In conclusion, we can assure the curious reader that he will find the original paper by M. *Bellefroid* very interesting and worthy of study. It is in the last August number of the *Bulletin Medicale Belge.)*

It may be useful as well as interesting, to subjoin to the preceding paper the following table, shewing the proportion of deaths out of 10,000 deaths in males and females, according to the London Registers of Burials 1813—1830, and according to the Registers of Deaths for the year ending June 30, 1838.

[This table appeared in the last number of this Review, p. 445.—*Rev.*]

Age.	Registers of Burials.		Registers of Deaths.	
	Males.	Females.	Males.	Females.
Under 1 year........	2,188	1,756	2,339	1,933
From 1 to 5 years ...	1,498	1,450	1,742	1,780
5 to 10 years....	437	410	457	462
10 to 20 years....	579	636	554	647
20 to 30 years....	724	839	738	833
30 to 40 years....	621	725	655	715
40 to 50 years....	649	670	653	632
50 to 60 years....	715	784	656	621
60 to 70 years....	911	922	813	823
70 to 80 years....	1,012	1,086	830	883
80 to 90 years....	584	700	473	556
90 and upwards..	75	116	94	115

ON DRUNKENNESS AMONG THE MANUFACTURING CLASSES IN FRANCE.

A report upon the physical and moral condition of the working classes in France was recently submitted to the attention of the Institute by M. *Villermé*, who has long devoted much of his time and attention to all subjects connected with the jurisprudence of medicine. The following extract on the pernicious influence of that most slavish of vices, drunkenness, will shew how widely and banefully spread it is among the manufacturing population in that country.

"It would seem that high wages are seldom or ever any great boon to the workman; for the more they gain, the more they will spend; so that, at the close of the year, there is rarely any difference in the means or property of the best and of the worst-paid among them.

At the same time it deserves notice that, although they usually consume a large quantity of food when they can procure it, they know how in times of distress to bear the greatest privations. The worst privation to bear, at least to many of them, is the want of wine and other stimulating liquors. It is unfortunately too much the case that, just in proportion to the poverty and distress of the workmen, so is their desire for such intoxicating drinks—no doubt because these make them forget their misery for the time.

Among the working as among the other classes of the lower orders, drunkenness is almost exclusively found among the men; and with them, it has been remarked, that the pernicious practice is seldom acquired before their first illicit connexions with women. It is most common among those who are either exposed much to heat, or have severe muscular exertion during their occupations; and it is more common in the cold climate of the northern than in the warmer climate of the southern provinces. In Lille perhaps more than in any other town the vice is most frequent and most revolting.*

---

* In the northern countries of Europe the spirit, that is commonly used, is obtained either from barley or from potatoes. The cheapness of the latter kind, and the great number of distilleries which prepare it, have contributed not a little to the increase of drunkenness.

The causes, which most contribute to engender and increase the disposition to drink intoxicating liquors, are

1. The bad examples which the youth from their very infancy see before them.
2. The choice of apprenticeship to a trade in which many drunkards are employed.
3. The habits of debauch and disorderly life induced by frequenting clubs and other social meetings.
4. The complete idleness on Sundays and on other holidays.
5. The low price of brandy and other spirituous liquors, and the number of cafés and taverns everywhere.
6. The destitution of moral and religious feelings and practices.

The practice of drinking is unquestionably at first acquired by mere imitation, and by a silly desire to be able to do as others do; then a pleasant sensation takes the place of indifference or of even a positive disrelish, until at length an irresistible desire and increasing passion enslave the degraded victim. It is thus that, step by step, and often alas! by a rapid transition, men pass from a decent sobriety to a most dreadful intemperance. When once the habit is acquired, every thing becomes, so to speak, an occasion to visit the *cabaret*. When work is brisk and he receives good wages, he goes because he has plenty of money; when out of employment, he goes because he has nothing else to do; when happy, to enjoy himself; and when unhappy, to forget his distresses. It is at the *cabaret* that he incurs his debts, that he pays them when he can, that he concludes his bargains, and contracts his acquaintanceships; in short, every thing is done at the *cabaret*, until the unhappy man is utterly ruined or is driven to destroy his own life.

When it has reached this pass, not only is all thrift, attention to children, and domestic happiness at an end, but the infatuated man and his family are brought to beggary and want; he is now idle, quarrelsome and discontented, fond of gambling and low play; he becomes degraded in his own estimation, and revengeful against others more fortunate or less vicious than himself; his health is impaired, and his feelings are brutalized; he associates with vice till he forgets that it is so; and at length he gives himself up to the perpetration of some crime which makes him an inmate of a jail.

It may be safely affirmed that drunkenness is the chief cause of almost all the disturbances and insurrections among our working classes, and of the greater number of crimes and offences against the laws.

The greatest blessing that could be conferred upon them would be, not to give them high wages, not to provide them with pleasures and entertainments, but simply to introduce habits of sobriety among them.

But how is this to be effected? Some will answer, by bringing the workman to make it a point of honour to himself to give up the practice, and by inducing him to become a member of a temperance society. The dissemination of books and pamphlets, whose object is to point out the numerous mischiefs arising from intoxication, the quarrels it gives rise to, the vices and crimes of which it is the parent, the ruin of health and strength and the debasement of mind which it occasions, should certainly be encouraged not only by the efforts of private charity, but by the direct interposition of all enlightened governments; while others suggest the necessity of restrictive duties upon all distilled spirituous liquors, and of severe police regulations against public-houses being open at late or very early hours. Good may be expected from adopting both of these plans—by appealing to the better feelings of the poor, and at the same time by discouraging and preventing, as far as possible, the sale of ardent spirits for drink by means of high fiscal duties.*

---

* Every one residing in London—and we suppose it is, or will soon be, the

M. *Villermé* had consulted several of the old workmen, who had become masters themselves, as to the most advisable means to prevent and discourage the habits of drinking among the manufacturing classes. Their suggestion was, that, for the first offence, the offender should be reprimanded by a magistrate, or even be imprisoned for a few hours, or for a day at most; and that, if the offence were repeated within a given time, the name of the culprit should be published to the neighbourhood. They believed by thus appealing to the honorable feelings of young men, and at the same time by holding out the threat of public exposure, a great restraint might be imposed upon not a few, at least.

To effect the cure of the wide-spread evil of intoxication, religion as well as municipal authority, the clergyman and the magistrate, the gentry and the master-manufacturers should all combine together in a spirit of active co-operation and unanimity. Much might certainly be done, if the *chefs de fabrique* —in other words, the proprietors of manufacturing establishments—were animated by a more philanthropic and christian spirit. Unfortunately, every thing is sacrificed to the ambition of mere wealth.

There are however honorable exceptions occasionally to be met with; and they well deserve to be noticed. M. *Villermé* particularly mentions the praiseworthy conduct of the leading manufacturers at Sèdan, who by discouraging the keeping of holidays and of not working on Mondays, by retaining in their employ such workmen as fall sick, and treating them all with kindness but at the same time with firm discipline, and by discharging any, never to receive them back, who are seen drunk, have contributed a great deal to improve the general character of the lower classes in the town.

We do not wish any one to imagine that we are opposed to the workman taking a single glass of wine, or beer, or of cyder: we rather wish that every man could have a moderate allowance of any of these liquors at his meals; the evil is not so much in the act as in the abuse and excess of it. It is however to be remarked that, according to the reports of the American Temperance Societies, no progress will be made in eradicating the evil of drunkenness, but by inducing the members to abstain from spirituous liquors *altogether*, and not merely by limiting the use to a certain quantity, or by taking them in moderation. The extraordinary success which, we are told, has attended the exertions of some of these societies, cannot but delight every well-thinking mind.

It is a common—but, we believe, a mistaken notion—that it is easier for a person to moderate the quantity of an accustomed stimulus, than to forego its use altogether. Reformed drunkards seem to agree that such is not the case; the entire withdrawal is easier to bear than the limited allowance.

The position therefore of the American Temperance Societies is founded on just grounds—*that a complete abstinence from intoxicating liquors is the only certain remedy against intemperance.*

It would seem that hitherto temperance societies have made but little ground in France, and M. *Villermé* appears not to anticipate nearly so much good among his countrymen from them as from well-organized associations of the leading manufacturers for the purpose of encouraging and exacting habits of sobriety from the workmen in their employment. He adds; *I consider the religious spirit of the United States as a powerful element in the success of temperance societies, which does not exist in our population.—Annales d'Hygiene Publique.*

---

same in all towns in England—must have been gratified by the change in the appearance of the streets on Sunday mornings, since the New Police Bill came into effect about three or four months ago. No public-house is allowed to be open between twelve o'clock on Saturday night, and one o'clock P. M. on Sundays.—(*Rev.*)

USE OF THE MICROSCOPE IN LEGAL MEDICINE—DETECTION OF THE SPERMATIC ANIMALCULÆ.

The French physicians have, during the last few years, been prosecuting with their accustomed zeal various subjects of physiology by means of microscopical enquiry. There cannot be a doubt that the value of the microscope has perhaps never, and certainly not during the last half century, been appreciated by the medical profession as it well deserves to be.

The following extracts from an elaborate paper by Dr. *Bayard,* on the *microscopical examination of seminal or spermatic stains on linen and other articles of clothing,* may suffice to shew the assistance to be derived from its adoption. The employment of the microscope, says he, in medico-legal experiments was first practised and recommended by M. *Orfila,* to ascertain the presence and nature of the fluid within the vagina and on the external parts, whether spermatic or not, in cases of suspected rape. His enquiries did not however, it would seem, lead to any satisfactory results; as he distinctly stated that, "no conclusion can be drawn from microscopical examinations in determining the existence of spermatic spots or stains."

It is to M. *Ollivier* that we are indebted for the first conclusive application of the microscope in medico-legal experiments. In June 1837, he was appointed to determine *if there was any hair or portion of hair adhering to a hatchet found in the house of a person accused of murder, and, if so, to say whether these hairs were human or not.* After a very careful examination, M. O. deposed that there were certainly portions of hair sticking to the blade of the instrument, but that it was not human hair, but that of some of the lower animals.* The correctness of the opinion was confirmed by the result of the judicial enquiry.

M. *Ollivier* has since published, in the Archives de Medecine for December 1838, the account of a novel application of the microscope, to ascertain the purity and genuineness of opium.

In November of the same year M. *Devergie* read before the Academy of Medicine a note on the characters or signs of death from hanging, and he particularly insisted upon the presence of spermatic animalculæ in the male urethra, and of the general congestion of the generative organs, as among the most important of all.†

We must not omit to mention that M. *Donné* had availed himself of the microscope in studying the characters of some animal secretions: his two memoirs "On the Nature of the Mucus and the Matter of Discharges from the Genital Organs in Men and Women, and also of the Spermatic Animalculæ" were published during the course of 1837.

In the latter of these papers, he endeavoured to point out the circumstances that were favourable and unfavourable to the life of these animalculæ, and he deduced certain conclusions as to some of the causes of sterility in women.‡

Dr. *Bayard* has, within the last year or two, followed out the suggestions of M. *Orfila* as to the evidence which might be derived from the microscopical examination of spermatic stains in certain medico-legal enquiries, and he has been enabled to correct the erroneous and unfavourable conclusion to which this distinguished physician had arrived.

He shews that it was in consequence of rubbing or beating in the water the linen on which were the spermatic stains, that the animalculæ were so bruised and broken in pieces that they could no longer be distinguished by any microscope however powerful. By simply moistening the linen in water, contained in a watch-glass, for several hours and then heating it gently with a spirit-lamp, he succeeded in detecting the dead animalculæ without any difficulty. Along with these animalculæ may usually be observed some prostatic *monades*: these have a globular form and are without tails, and they are considerably larger than the genuine *zoospermes* or spermatic animalculæ, which, it is well known, have tails, and very much resemble in shape miniature tadpoles. The most important caution in conducting the above experiment is to avoid in any way bruising the animalculæ by rubbing or squeezing the linen. When this has been macerated for a sufficient length of time, Dr. B. sometimes filters the fluid, and thus procures all the solid matter on the surface of the filtering paper. He then takes a small portion of this and drops a little alcoholised or ammoniated water upon it for the purpose of dissolving its mucous portion, and of detaching the zoospermes from its surface: if any fatty matter is present, a few drops of etherialized water should be used. At the bottom of the fluid thus obtained, a deposit will quickly be perceived: of this a few drops may be sucked up by means of a small tube and placed on the object-glass of a microscope which magnifies 400 or 600 times.

---

* Vide Medico-Chirurgical Review, July 1839.

† Vide Medico-Chirurgical Review, October 1839.

‡ Vide Medico-Chirurgical Review, April 1838.

When thus examined, we usually perceive between the plates of glass several spots of a greasy aspect; it is in these spots that the animalculæ are generally observed. In other points we may notice numerous corpuscles suspended in the fluid, and perhaps also several of the animalculæ floating freely about.

There is another method that may be followed. A few drops of the fluid may be placed on a portion of glass and allowed to become dry; if it is now subjected to examination with the microscope, the zoospermes will be generally very easily detected.

Dr. *Bayard*, after giving a most minute account of the numerous experiments* which he has performed, sums up the results of his observations in the following category of conclusions:

1. The spermatic animalculæ retain their life and movements, as long as the mucus, in which they are suspended, remains fluid and warm. I have found them alive during ten hours.

2. The semen, if allowed to become dry and then moistened, swells up and gradually diffuses itself in the fluid—the diffusion being more complete if gentle warmth be applied. By means of a powerful microscope the animalculæ, characterised by their long tails, may then be readily discovered.

3. Dried semen dissolves itself in saliva and also in urine, and the animalculæ are found to be not at all altered in their characters.

4. Pure alcohol, and concentrated solutions of potassa, soda and ammonia do not dissolve the spermatic mucus; they cause it to shrink up, and they destroy at the same time the animalculæ. If these reagents be however sufficiently diluted with water, they exert a very remarkable dissolving action on the mucus without destroying the animalculæ.

5. To detect the spermatic animalculæ in spots upon linen, &c. we must take great care that it be not rubbed or squeezed either before or after maceration. By filtering the fluid of maceration, and then examining the deposit that remains on the filter we can generally detect the spermatic animalculæ uninjured, and with their bodies and tails perfect.

6. The presence of the animalculæ may be discovered in the mucus of the

---

* He states that he has been engaged in eleven judicial enquiries connected with the present subject since the beginning of the present year, and that in each of them a microscopical examination, conducted in the manner explained, has furnished *resultats certains*.

vagina, (provided the woman has no morbid discharge) for many hours after sexual intercourse.

7. Dr. *Bayard* says that he has been able to recognise the presence of the animalculæ *a longue queue,* entire and complete in every respect, on spermatic stains of from two to upwards of twelve months old.—*Annales d'Hygiene Publique.*

M. Orfila on the Signs of Death from Hanging.

M. *Orfila* examines the important medico-legal question, how far the state of the genital organs in the male can enable the physiologist to determine whether suspension has taken place during the life or after the death of the deceased. "You know, gentlemen," says M. O. addressing himself to the members of the Academy, "that the presence of zoospermes in the urethra and the congested condition of the genital organs have been regarded by M. *Devergie* as certain signs that the deed, either of suicide or murder, had taken place during life. Now I cannot admit the truth of this idea; for numerous experiments which I have performed demonstrate, in my opinion, its utter fallacy. It is well known that the presence of spermatic animalculæ may be discovered in the urine which has been voided not only immediately, but for several hours, after emission. Now if this be so, we have only to suppose that during the interval death has taken place naturally, and that the body has been suspended afterwards; and then the signs, which M. *Devergie* regards as indicative of his doctrine, will be found present.

But independently of this consideration, I may state that, having most carefully examined the urethra in five persons who had died of different diseases, and were immediately after their decease placed on their backs, I found in all a certain quantity of spermatic fluid in the canal, the animalculæ being even sometimes seen to be still alive. I should add, at the same time, that in several bodies examined more than four and twenty hours after death, the presence of semen could nor be detected: the involuntary discharge of the urine at the close of most diseases may partially account for this absence.

As to the question of the alleged congestion of the genital organs after death from hanging, I may mention that I have repeatedly suspended dead bodies, when these organs had previously been observed to be quite flaccid, and that I have constantly found them after a certain lapse of time to become congested, and in one case even obviously erected.

In a phthisical patient, 30 years of age, the penis increased seven lines in its circumference, and a milky fluid, which oozed from the extremity of the urethra, was found on examination to contain dead zoospermes.

In another case the penis enlarged by at least nine lines, and its cutaneous veins became remarkably dilated.

In a third case, the congestion was so great that the penis was stiffly erected and its veins were quite distended; when the corpus cavernosum was divided, a complete stream of blood flowed out.

It appears therefore from these facts that the opinion of M. *Devergie* is contradicted by experience.—*Memoires de l'Academie.*

M. Civiale on the Treatment of Gravel.

The following remarks are from a memoir which this distinguished surgeon read at a recent meeting of the Academy of Sciences.

"Much attention has of late years been paid to the history of gravel; but most of the enquiries, having been undertaken with systematic prepossessions, have terminated only in false conclusions. For, in truth, the formation of gravel has been almost invariably regarded as being dependent on the mere laws of chemical affinity, and the consequence of this has been that medical men have deemed it quite sufficient in practice to counteract the play of this affinity.

Then again, as soon as it has been discovered that a calculous concretion has been formed, the chief, nay the sole, effort of the practitioner has been to effect either its discharge or its destruction by means of chemical agents, without paying any regard to the organic modifications which gave it birth, or to the influence which it gradually exerts upon the entire system by the mere circumstances of its presence in some part of the urinary apparatus.

What strikes us as especially remarkable in reading the numerous works on calculous disease is, that the authors have generally mistaken, for the essential or primary disease, *one* merely of the effects or results of several morbid states. Hence they have directed their attention only to the removal of the foreign substance already formed, without considering the organic predisposition which has led to its formation; and thus they have allowed their minds to be seduced into a multitude of merely arbitrary conclusions.

Not long ago it was imagined by many writers that calculous disease was scarcely, if at all, known in warm climates, and also that it was of much more frequent occurrence in old men who had been free livers than in others. Now both of these two conclusions have been proved to be quite erroneous by most authentic and trustworthy reports.

It is not surprising that most of the theories, which have been proposed on this subject, should be unable to stand; seeing that they are faulty at their very basis; for the circumstances, which have been viewed as culminant, have in truth little or no real importance in themselves.

The chemical theory of calculous disease can be applicable only at that moment when the urinary secretion has been brought, by a series of morbid actions, to the conditions which determine the formation of gravel. But the question may be asked, what has prepared or paved the way for these conditions? What circumstance or circumstances cause a predominance in one case of uric acid or of urate of ammonia, in another of cystic oxyde, in a third of oxalate of lime, and in a fourth of some phosphate or another?

Now these are questions which it is quite necessary to solve, before we can hope to dissipate that empiricism which hangs round the treatment of gravel. I have attempted the solution; and the manner, in which I have explained the formation of urinary concretions, suggests the elements or principles of that therapeutic practice, which a long and extensive experience has now proved to be so beneficial.

One very fruitful source of the errors of medical men in reference to the success of any particular mode of treatment arises from the circumstance of their losing sight of their patients, and of their mistakingly supposing that they have been permanently cured—whereas, too often, they have left one physician only to go and consult another. Of the truth of this I almost daily see examples.

It is only of recent years that the attention of surgeons has been directed in an especial manner to facilitate the escape of calculi by the urethra. It is a fact of continual observation that, after the operation of lithotrity, fragments of calculi, sometimes of considerable size, will spontaneously be discharged with so little suffering, that the patient is scarcely aware of the occurrence. Now this circumstance, which at first appears to be very strange, is altogether attributable to the diminution of the sensibility of the urethra, in consequence of the preparatory treatment, and to the increase, at the same time, of the contractility of the bladder induced by the manœuvres of the lithotritic operation. The observation of this fact naturally led to the practice of employing the same means to prepare the passages for permitting a transit of calculi which have descended from the kidneys. The truth of the precept has been established, and the practical results from adopting it have been most highly satisfactory.

Hitherto the morbid conditions of the organs, with which the calculi are in contact, or along which they must pass in order to be discharged outwardly, have been almost entirely overlooked. These morbid conditions are however as common as they are numerous; and each and every one of them may present some obstacle to the spontaneous expulsion of the calculus. The chief of these are the spasmodic narrowings and the organic contractions of the urethra, lesions of the prostate gland or of the neck of the bladder, and atony and paralysis of the bladder itself.

The only effect of these diseases, where they are not complicated with calculus, and provided also they are not developed in their extreme degrees, is to cause the excretion of the urine to be tedious and perhaps painful; but in calculous patients their effects are much more serious, for they directly oppose the escape of the calculi and gravelly matter, or, at least, they render its escape difficult and distressing. I have seen a great number of calculous patients, who had tried without any benefit all the therapeutic means that could be imagined. On examining the state of the urethra in many of these patients, I at once detected a state of spasm or neuralgia, under the influence of which the canal had lost most of its pliancy and power of expansion; and by removing this morbid condition, I quickly succeeded in enabling nature to get rid of the gravel within the bladder, although all medical treatment was suspended at the time.

In the case of other patients placed in less unfavourable circumstances, the expulsion of the gravel continues to take place in spite of the nervous condition of the urethra; but this is accompanied with painful sensations, and in some instances it is only after most severe and protracted suffering that the foreign body or bodies are discharged.

The employment of such means as are calculated to relieve the spasm or neuralgia of the urethra will be found very generally to facilitate the expulsion of the calculi. Such, at least, has been the result of my experience in a multitude of cases, where no benefit had been derived from a rigid vegetable diet, enormous quantities of the alkaline bicarbonates, and a long-continued use of the most approved mineral waters.

Contraction of the urethra is certainly not of rare occurrence. The mere presence of calculi in the bladder has a tendency to induce this morbid state; and thus an obstacle is at once presented to their easy exit. When the contraction is more decided, its existence is denoted by special symptoms—such as the frequent desire to pass urine, the obstructions in doing so, the diminution in the size of the stream, &c. &c. The urethra may, however, be very considerably contracted, without there being almost any difficulty in voiding the urine, and yet no calculi, however small, can pass with ease.

It is therefore an important object in the treatment of calculous complaints to counteract all tendency to contractions of the urethra, by the use of bougies. By effecting this, the bladder may possibly be prevented from becoming thickened and contracted, as we usually find it to be in the cases now under consideration.

The prostate gland too is subject to various organic lesions, the common effect of which is to deform the urethra, change its directions, and at the same time deprive it of that pliancy which is necessary to the exercise of its functions. But it is chiefly on the escape of calculous matters that the diseases of the prostate have the most injurious influence. Hence those matters are usually retained in the bladder, and thus gradually become larger and larger, according to the duration of their sojourn, and the tendency of the urine to precipitate its solidifiable principles.

Now, if the attention of the surgeon be not directed to remove this morbid condition of the neck of the bladder, or to counteract its influence, no medical treatment against the gravel can be of almost any avail.

Independently of the direct obstruction, in some degree merely *mechanical*, caused by the enlargement of the prostate, or by any other swelling about the neck of the bladder, there is another, which I would denominate *vital*, and which arises from an increase in the sensibility and contractility of the urethra or of the cervix vesicæ.

This affection is usually connected with an incipient organic lesion of the prostate gland and also with the presence of gravel;—so that there are here two obstacles, dependent one upon the other, and of which one may likewise be produced and aggravated by the very gravelly matter, whose escape it prevents. The plan of treatment, which I have recommended against urethral neuralgias, is usually sufficient to regularize the excretion of the urine; and when once this end is gained, the gravelly matter will in general be expelled without the assistance of art. When indeed the organic lesion is serious, the case is often quite intractable; the spasmodic contractions of the neck of the bladder cannot perhaps be overcome by any means, and then the sand and gravel are retained. Under such circumstances, I have repeatedly had recourse to lithotrity for the purpose of effecting the artificial extraction of the foreign matter, and in this manner I have succeeded in curing a great number of patients, who had been for a length of time fruitlessly subjected to the medical treatment in ordinary use.

Such are the cases in which I have employed with very decided advantage injections of water in a full stream, by means of large catheters provided with ample eyes at the points. Although the gravel is removed from the bladder, it is still very necessary to watch the patient; as we must not forget that there remains at its neck a cause of irritation, proceeding from the morbid state of the prostate gland, and the strangury which this induces:—otherwise the gravel will speedily be reproduced.

Besides the causes hitherto mentioned, which tend to prevent the easy expulsion of calculous matter, there is one dependent on the state of contractility of the bladder, which we now proceed briefly to describe.

It is well known that this organ must have, in order to execute with regularity its functions, a certain degree of energy or tone, and this power be equally diffused over the various parts of the apparatus which act together in expelling the urine. Now it often happens that the bladder is deprived of a portion of this faculty, and that, while there is weakness at one part, there is an excess of contractility at another:—there is spasm of the neck, and atony of the body of the viscus.

Hence arises a double cause of obstruction to the free passage of the urine, and of the almost total impossibility of expelling any calculous matter.

If the disease be not very serious, we may often succeed in relieving such a state of things. For the purpose of diminishing the irritability of the vesical cervix, the repeated introduction of bougies will be found to be the most simple and effectual means; and the atony of the body of the bladder is best counteracted by injections of cold water. In a great number of instances I have enabled patients, by the use of these means alone, to expel all the calculous matter in their bladders with great ease and with little or no suffering.

The three sorts or causes of impediment to the spontaneous discharge of gravel—the narrowings and contractions of the urethra, lesions of the prostate gland, and atony of the bladder—may co-exist in one patient. Although such a complication necessarily adds much to the difficulty of treating the case, we shall often succeed in obtaining the expulsion of the gravel, and thus saving our papatient from calculus, by combining in practice the various modes of treatment, adapted to each, at one and the same time.

It is not only in reference to the expulsion of calculous matter that it is of high importance to remove the different morbid states now alluded to: they likewise exercise an influence, not less powerful but hitherto not appreciated, on the function of the kidneys, and consequently on the secretion of the urine; one effect of which is to modify and alter its chemical composition so much, that the tendency to precipitation is greatly increased. The therapeutic means therefore, which I have pointed out above, not only serve to diminish the inconveniences and dangers arising from gravel, but they are also the most effectual preservatives—in many cases they alone suffice, without the assistance of any medical treatment—against a return of a disease, which may have existed during many successive years.

After what has been stated, it will be readily understood how necessary it is to explore the urethra and bladder in calculous patients; and yet almost all writers have utterly neglected to point out the utility of such a practice, and have given no other rule to guide the young surgeon than that of merely relieving symptoms as they arise. This is one of the causes, which have most contributed to render of no avail the various methods of treatment, which at different times have been recommended.

Every one can easily understand that, if a calculus be too large to traverse the urethra, all medical treatment which tends to promote its expulsion must be useless, if not positively injurious. Besides, the longer that the gravelly matter is retained in the bladder, the more bulky it will become, until at length one or more large calculi are formed—the removal of which can be effected only by lithotomy or by lithotrity. It is therefore of the very highest importance that the disease be detected in its very earliest stage, and that means be used to discharge any foreign matter from the bladder, while it is in small quantities and of little bulk.

Patients themselves have not been without some influence on the stationary condition, in which the history of gravel disorders has for such a length of time languished. The greater number of persons, suffering from these, give themselves up to alarms, of which not a few have become victims. They represent to themselves so frightful a picture of the examinations necessary to ascertain their disease, and of the operations requisite to cure it, that they recoil from the employment of these means, and will submit only to some palliative mode of treatment, during the continuance of which the gravel passes to the state of real calculus.

Among the circumstances, which have most contributed to mislead gravel patients into this error, is the dangerous curiosity of trying to make themselves acquainted with the nature of their disease, by reading all the publications which issue from the press on their disease.

That some medical writers have fostered this pernicious feeling, by addressing their works to the popular reader, is alas! but too true.

On the other hand, the periodical press is found to teem with successive remedies or modes of treatment, which are held out as of infallible efficacy. Every thing is greedily read by the poor patient; and thus not only is he tortured between vain hopes on the one hand, and the terrors of irremediable suffering on the other, but he at the same time is losing much of that precious time, during which his disease, if not relieved, is most assuredly gaining ground.

Such is one of the many evils which spring from the press—too often lauded as the parent of unmitigated good, but which alas! like all other human inventions, is faulty, imperfect, and most pregnant with evil. *La Lancette Française.*

EPILEPSY AFTER AN EXTERNAL INJURY CURED BY TREPHINING.

In a recent number of the Italian Journal, *Il Filiatre Sebezio*, we read the following case reported by Dr. *Renzi*.

"A youth, 18 years of age, had been subject since he was ten years old to attacks of epilepsy: they had resisted every mode of treatment, and within the last half-year had become so frequent as to return almost every week. By falling from a scaffold he sustained a fracture of the frontal bone, and also of the left thigh. For five months he was confined to bed. The wound of the forehead suppurated and the injured bone exfoliated. During the whole period of treatment, there was no return of any epileptic paroxysm; and moreover, the patient had quite lost that stupid air so frequent in epileptic patients, and his intellectual powers seemed to have become altogether invigorated. But scarcely was the wound of the head healed than the epileptic fits returned with fresh violence. A seton however being immediately put in the neck, the disease was checked and finally arrested."

The reading of this case reminded M. *Busse* of a case, which had come under his notice many years ago. A youth received some severe blows on the head from his master, whom he had displeased. After the immediate effects of the injury had passed away, the boy became affected with paroxysms, first of chorea and subsequently of decided epilepsy. The frequency of these paroxysms increased so much, that at length the patient had several of them every day. On examining the head, it was found that there was one spot on the vertex which was excessively tender when pressed upon.

An incision was made through the scalp down to the bone; but no unusual or abnormal appearance was perceived. Notwithstanding this, *Hufeland* recommended that the bone should be trephined. During the very process of perforation, the patient was seized with a fit. An effusion—it is not stated *where*—and a fissure of the internal osseous lamella were discovered. The patient not only recovered perfectly from the effects of the operation, but never had any return of the epileptic disease.

His health continued quite good for many years; he married and became the father of a healthy offspring. During a period of upwards of twenty years he had only three attacks of an epileptic paroxysm: each of these attacks had been preceded by indisposition, and had been brought on by mental emotions.—*Hufeland's Journal der Practischen Heilkunde.*

ON DIURESIS AS A REVULSIVE ACTION IN DISEASES OF INFANTS.

Dr. *Simon* prefaces his remarks by alluding to the frequent inactivity, and sometimes the almost complete suspension, of the functions of the bowels and kidneys, while the system of the child is suffering severely from dentition. Whenever the intestinal or urinary excretion is much diminished, the febrile irritation of the system, it is well known, is invariably greater than usual; and, if this state of things be permitted to continue without relief, there is much risk of alarming cerebral symptoms quickly making their appearance. The practitioner will therefore do well to pay particular and uniform attention to the condition of the bowels and kidneys in all diseases of infancy and childhood. The simple question as to the quantity and colour of the urine—and by the bye we can much better trust the report of nurses about the state of the urine than we can about that of the alvine evacuations—will often enable us at once to form a correct opinion as to the general or constitutional health of our patient. As long as the kidneys act freely, there is little or no risk in the symptoms of mere dentition, however severe and distressing these may be. The same remark is, we believe, strictly applicable to the prognosis of most cerebral affections in children. When the urinary secretion is scanty and deep-coloured, the circulation seems to be both oppressed and excited; and the rapid, on some occasions almost instantaneous, mitigation of the alarming symptoms after a copious discharge of water is well known to all experienced practitioners. To promote this critical diuresis, a purgative composed of senna and salts, and then frequently repeated doses of nitre,* are the simplest and most efficient means that can be resorted to.

The chief danger of dentition is referrible to the vascular excitement of the brain. Nor is this wonderful; when we consider that for several successive months there is a continued, and often very severe, irritation in its immediate neighbourhood. The pain attendant upon the cutting of merely one tooth, in our adult years, may teach us to form some idea of the suffering of an infant during the period of its first dentition.

Now it is a common observation that almost all head-aches are most promptly relieved by whatever stimulates the kidneys to throw off a quantity of urine. When this takes place, the system feels at once relieved of a load or oppression which seemed to clog all its energies, and the mind as well as the body becomes more light and vivacious. We are thus led by the experience of our own feelings to anticipate the benefits, which must attend the stimulation of the kidneys in the various affections of children arising from teething.

On the whole, we do not think that there is a more important sign to be attended to in the management of children, during the first two years of their life, than that afforded by the state of the urinary secretion. If nurses and mothers were better aware of this simple, but most valuable, suggestion, the life of many an infant might be saved; for disease would often be detected in its earliest stage, and then might certainly be arrested by the administration of appropriate means. With regard to medical men, we strongly counsel them to make it an invariable rule in their practice to enquire into the state of the urine. As we have already hinted, we can more generally depend upon the reports of mothers and nurses as to the appearances and condition of the urine than of the alvine evacuations, in those cases where we cannot examine the excretions for ourselves.

Nothing will more contribute to relieve the system of the feverish irritation, under which the system of a child suffers during dentition, than a copious diuresis. We should bear in mind too, that independently of the excitement arising from this cause, there is naturally and necessarily a tendency to over action of the blood-vessels in the head during the first year or two of life. The brain, it is well known, is larger then in proportion to other parts of the body than in after years; all the senses are, probably, more acute, the mind as well as the body is rapidly growing, and perhaps scarcely a day passes over without there being made some addition or another to the store of infantine perceptions and ideas. We cannot wonder then that the simultaneous development of so many organs and new faculties should have a powerful influence on the physiological and pathological phenomena which characterize this period of life. To refer all to the excitement arising from the evolution of the teeth, is to take a very partial, and therefore an erroneous, view of this important question. A valuable therapeutic principle is suggested by these considerations; and it is this: that in the treatment of many diseases of infancy we have rather to *regularise* than directly to check or overcome; and therefore that we should most attentively examine the condition of all the functions of the body, in order that we may discover the direction or sense, so to speak, in which nature's efforts are working, and be enabled to assist her in these efforts.

---

* Some practitioners are in the habit of adding minute doses of digitalis to the diuretic mixture; and seemingly with good effects. The following formula will be found to answer well.

℞. Potassæ nitratis.......... ℈j.
Aquæ m. viridis.......... ℥ijss.
Syrupi croci.............. ʒij.
Vini antimonialis .... ʒiss.
Tinct. digitalis............ ♏xvj. M.

A table spoonful to be given every two or three hours.

Before closing these remarks, we may very briefly allude to the notable effects which diuretic medicines sometimes exert on the progress of hooping-cough. The administration of nitred drinks and of minute doses of digitalis* seems often to promote the crisis of the disorder in its earlier stages; and, in its more advanced and chronic form, the use of tincture of cantharides has been recommended by Dr. Watts and others, as one of the most efficient antidotes.† The excitement of the urinary viscera produces a powerful revulsion on the neurosthenic condition of the gastro-pulmonary apparatus, and thus seems to act as a derivative of the morbid action.

In fine, the kidneys become, in numerous cases of disease, the seat of an active eliminatory process, of which the skilful physician will avail himself in the treatment of dentition and of various other affections to which children are especially liable during the first two years of life.—*Bulletin General de Therapeutique.*

ON THE INTERNAL USE OF ACETATE OF LEAD IN ANEURISM OF THE AORTA, &c.

Aneurism of the aorta is very properly considered as an incurable disease; for in all the cases where a cure has taken place, this has been the result of the efforts of nature, and certainly not the direct effect of the remedies employed. We do not mean by this assertion to disparage or condemn the use of all therapeutic means in the treatment of this formidable affection; far from it; judicious medical regimen, as regards not only the administration of drugs and the regulation of the diet, but also the general management or discipline of the entire system, mental as well as corporeal, may powerfully contribute to accomplish the desired end, by encouraging the formation of coagula within the sac, and removing all the impediments to this curative process. The mode of treatment so strongly recommended by *Valsalva*, that usually it passes by his name, and which consists, it is well-known, in frequently repeated abstractions of blood and in continued rest and quietude, appears to us to be of very questionable propriety. For the effect of it must surely be to attenuate the condition of the blood itself, and therefore at once to diminish its coagulability or tendency to deposit its

---

* Dr. Simon recommends the external use of tincture of digitalis rubbed, as a liniment, on the abdomen.

† A favourite formula of some physicians in certain chronic cases of hooping-cough is the following:—

℞.	Tinct. cinchonæ..........	ʒiij.	
	Tinct. lyttæ	ʒj.	
	Tinct. camphoræ comp......	ʒij.	
	Mist. camphor.	℥ijss.	M.

Capiat coch. j. magnum ter in dies.

fibrinous constituent—the very property by the operation of which the curative process is to be effected. M. *Dupuytren* had for many years abandoned the practice of frequent bleedings in the treatment of diseases of the heart and large blood-vessels. Blood was drawn only for the purpose of relieving present distress and existing congestion. It seems therefore to be more rational to make use of any means—if such really do exist—which have the effect of retarding the force of the circulation, without at the same time altering the qualities of the blood. The late Baron *Dupuytren* and some other medical men were in the habit of occasionally using the acetate of lead, as an internal remedy, with this view. MM. *Dusol* and *Legroux* have collected together the data of several cases where this saturnine preparation seemed to produce good effects in cases of aneurism of the aorta.

It is to be regretted that the reports are not sufficiently minute to satisfy the medical reader in every respect; but it cannot be denied that they are sufficient to justify the conclusion that the remedy deserves to be more frequently used than hitherto it has been.

The following is the statement of one of the cases:

A man, 37 years of age, was admitted in May, 1829, into the Hôtel Dieu, and under the care of M. *Dupuytren*, with a pulsatile tumor extending from the right side of the sternum in the direction upwards. Three years before the date now mentioned, he had suddenly experienced, while lifting a heavy weight of timber, a sharp pain on the right side of the chest, accompanied with difficulty of breathing. He continued however regularly at his work for the next fifteen months; but the oppression gradually increasing, and being now attended with severe headaches and acute pains in the right shoulder and extending upwards along the neck in the direction of the great blood-vessels, he had been bled once or twice from the arm; but this treatment had afforded partial and temporary relief.

At the end of several months, a tumor was perceptible outwardly: and this gradually attained the size of a large egg. As this outward swelling made its appearance, the dyspnœa became less troublesome, until at length it almost entirely ceased for a time. The distress of the patient however, soon returning, he applied for admission into the hospital. The tumor was found to pulsate isochronously with the beats of the heart; the skin was somewhat reddened and seemed to have become attenuated; there was frequent cough and dyspnœa—which was sometimes so distressing as to prevent the patient from laying down—congestion of the features, occasional difficulty in deglutition, and tendency to most annoying dreams during sleep. After a small bleeding, the patient was ordered by *Dupuytren* to take a pill, containing one grain of acetate of lead, twice in the course of the day; the number was gradually raised to six in twenty-four hours. Within three weeks, the size of the swelling was very sensibly diminished; the same treatment was therefore ordered to be continued, and the part was to be kept covered with compresses, wetted with a saturnine wash. The dose of the pills was raised to eight and then ten, each containing one grain of the acetate, a day during the month of June; and as the patient at this time began to suffer vomiting, the medicine was omitted for about a week. It was, however, then resumed and persevered in for another fortnight. The patient at this time left the hospital in all respects wonderfully relieved: he was advised to continue the same treatment for some weeks longer.

The second and third cases reported in the memoir of MM. *Dusol* and *Legroux* are so very similar to the one now briefly narrated, that it is unnecessary to particularise their details. In all the three cases, not only did the outward swelling very notably subside, but also the respiration experienced such decided relief, and this too long before there could have been any decided diminution in the pressure of the tumor on the lungs or trachea, that we deem it probable that the remedy acted directly upon the organs of circulation.

The influence of acetate of lead in hæmoptysis, and in some other forms of internal hæmorrhage, is very generally admitted. How does it act in such cases?—it seems probable that it is by a directly sedative operation on the heart, and thus removing, or at least mitigating, the *engouement* and congestion of the pulmonary tissue. The acetate of lead has been used with advantage to check the amount of purulent expectoration in phthisis, to arrest all excessive evacuations from the bowels, to moderate the superabundant flow of milk, &c.: it seems in short to be a very general astringent.

The study of the rationale of remedies—or in other words the *science* of therapeutics—is a subject of first-rate importance to the physician. Indeed it affords by far the best means of improving the practical part of our profession; and this, after all, is the end and scope of our labours.—*Archives Generales.*

ON HYDROCELE OF THE NECK.

Those encysted tumors of the neck which have been sometimes designated hydrocele of the neck, although mentioned in the writings of some of the older authors, had attracted little notice, until M. *Maunoir* of Geneva published, in 1825, his work entitled " Memoires sur les Amputations, l'Hydrocele du Cou, et l'Organisation de l'Iris." M. *Delpech* subsequently narrated, in his Clinique Chirurgicale, two cases which he had successfully treated by operation. Messrs. *Lawrence, O'Bierne, Heidenreich, Beck,* &c. have since published the reports of a few additional instances of this rather rare disease, and have thus contributed to enlarge our knowledge of its true characters.

According to the researches of MM. *Fleury* and *Marchessaux*, in the August Number of the Archives Generales de Medecine, there are two sorts of these tumors, which may be distinguished from each other by the difference in their anatomical characters.

The *first* are those which are developed in the actual tissue or substance of the thyroid gland. They are sometimes superficial, at other times deep-seated: they correspond to the cellular or thyroidean serous goitre of *Beck* and *Heidenreich*, to the hydrocele of the neck of *Maunoir*, the hydro-bronchocele of *Percy*, and the encysted goitre of other writers.

The *second* are developed in the common cellular tissue of the neck, at a greater, or less distance from the thyroid gland, and, according to some authors, in the cellular texture of this gland itself. These have been denominated by *O'Beirne* hydrocele of the neck, cystic tumors by *Boyer* and *Dupuytren*, fibro-serous cysts by *Delpech*, and hygroma cellularis by several German surgeons.

MM. *Fleury* and *Marchessaux* have given a very minute description of the anatomical peculiarities of these two sorts of tumors. Those, which more properly appertain to the thyroid gland, had already been ably treated of by MM. *Andral* and *Beck*.

The other kind, or such as are developed in the cellular tissue, are genuine encysted swellings; the cysts of which are formed by the progressive development of a fibrous tissue, which, as Bichat first demonstrated, exhibits many of the characters of serous membranes. The skin over them does not usually undergo any change, except perhaps when it adheres very firmly to the subjacent cyst; and then it becomes so very thin, from the absorption of all the fatty matter, that the minute bloodvessels can often be seen through it. At other times, the cyst is connected with the surrounding parts only by very loose cellular-tissue, so that it remains very moveable. The parietes of the cyst are usually firm, little or not at all elastic, and thickened. The thickness is sometimes remarkable: in one case the anterior wall of a cyst was found to be nearly an inch in thickness. Not unfrequently within their cavity are found laminæ of a cartilaginous and even of an osseous formation.

These characters are always the more decided in proportion to the length of time that the swelling has existed. The internal surface of the cyst, when its aspect is not completely modified by the transformation which it has undergone, exhibits a white, reticulated, appearance, not unlike to the inner surface of the ventricles of the heart, or of the urinary bladder in certain cases. This surface is coated throughout with a pseudo-serous membrane, which invests all the ridges and furrows, and which some anatomists have described under the name of internal lamina of the cyst. Its thickness, colour, and consistence vary much in different cases: in some it is smooth and of white colour, while in other cases it is more or less red, and resembles a softened mucous membrane. Occasionally pieces of this lamina become detached, and, floating about in the fluid of the sac, have been mistaken for hydatids.

The encysted tumors of the neck have been met with in both sexes, and at almost every period of life: sometimes they are congenital. Their growth is usually very slow; and in most cases no cause can be assigned for their appearance. Occasionally they have been observed to enlarge rapidly after a catarrh, and also after an accouchement.

If allowed to attain a large size, they impede the respiration, and even the deglutition, as well as the circulation in the neck and head.

The fluctuation of their contents is generally more easily perceptible in the earlier stage of the disease—provided the tumor be sufficiently prominent—than when it is more advanced, in consequence of the parietes of the cyst gradually becoming thicker and more resisting. Hence mistakes in diagnosis have occasionally been made by the most experienced surgeons, and cases of hydro-bronchocele have been considered as examples of goitre, or of some other solid growth. We may also mention that the tumor may sometimes be mistaken for an aneurism of the carotid artery, in consequence of its communicating the pulsations of this vessel; but a careful examination of the case will generally enable the surgeon to discover that the swelling experiences a lifting up or rising *en masse*, and not those movements of alternate expansion and retrocession, which are characteristic of a genuine aneurism.

With respect to the different methods of treating hydrocele of the neck, authors very generally agree in regarding *puncture* as a mere palliative means, and as one moreover not always free from inconveniences; and they condemn *injection* of the sac, as uncertain in some cases and highly dangerous in others. The use of a *seton* or something analogous, as a canula, tent, &c. appears to be the practice most extensively approved of.

In one of the cases, which occurred to *Dupuytren*, the sac refilled to its former size within a short time, although a seton had been in it all along; a canula of elastic gum was therefore introduced and left in the lower opening, so as to permit a ready escape to the contents of the sac, and at the same time to allow the occasional injection of emollient and detersive washes.

MM. *Fleury* and *Marchessaux* also record a case, in which the same method was adopted with success, after various other means had been ineffectually tried.

In a case, which occurred in a girl 17 years of age, M. *Jobert* punctured the tumor three times successively, the fluid having re-accumulated quickly after each operation. After the third puncturing, some alcoholised water was injected into the sac, and then a seton was introduced for the purpose of keeping the wound open. At the end of a week, suppuration was but imperfectly established, and there was only a slight serous oozing, when the seton was removed. An elastic-gum canula was therefore substituted for the seton: this was kept in the opening, and gently stimulating injections were repeatedly passed through it. After the lapse of two months, the swelling, which had been of an immense size, was not bigger than an egg; and four months later, all that remained was a small kernel or lump, which was entirely indolent.

M. *Flaubert*, of Rouen, has published a case which he successfully treated by *incision*—a method which has succeeded in the hands also of MM. *Delpeck*, *Morelot*, *Lemaire*, and which an Italian surgeon has in one case combined with the use of the seton.—(*Annali Universali.* Feb. 1838.)

Excision has been repeatedly adopted with complete success. In three cases *Beck*, after having laid open the tumor by an incision, excised a portion of the cyst, which was not connected with the thyroid gland. This method hastens the process of suppuration, and does not seem to be attended with any inconveniences, when precaution is taken to avoid wounding the substance of the thyroid gland.

The *extirpation* of the entire sac may be adopted with advantage, when the cyst is small, superficially seated, and not firmly adherent to the thyroid gland, or to any other of the neighbouring important parts.

M. *Jobert* practised it with success in the case of a woman, 30 years of age, in whom the tumor was of the size of a hen's egg, and was smooth, hard, and so resisting, that it communicated no feeling of fluctuation; the wound healed up by the first intention, the twisted suture having been employed to retain its lips together. But we must refer our readers, who may wish to make themselves acquainted with the particulars of the various cases on record, to the original paper of MM. *Fleury* and *Marchessaux*, and will now extract only the following conclusions, which they have deduced from their enquiries.

1. The encysted tumors of the neck may be arranged, according to their anatomical position and relations, in two classes—one comprising such as are developed in the substance of the thyroid gland, and the other, all those which are developed in the cellular tissue of some portion of the neck.

2. The *first* set seems to be attributable to the hypertrophy of one or more of the cells of the thyroid gland, and, if so, cannot be regarded as encysted tumors, in the strict sense of the phrase; whereas in the *second* set, the sac of the tumor is a genuine cyst of a sero-mucous nature.—*(Delpech.)*

3. This distinction is important both in a diagnostic and in a therapeutic point of view.

4. The tumors of the first class may be readily mistaken for genuine goitre; and those of the second for chronic abscesses, lymphatic swellings, or aneurismal swellings.

5. Encysted tumors of the neck, whatever be their nature, should never be left to Nature; they always require surgical assistance for their dispersion.

6. Among the various methods of treatment, which have at different times been proposed, that of nearly puncturing, and that of injecting the sac, appear to be the least trustworthy and advisable. The employment of a seton, after a free incision has been made, has been found useful in tumors of the first class, by inducing and keeping up a long and abundant suppuration, and thereby causing a melting down of the hypertrophied and swollen tissues; also in all cases where the cyst was multilocular, by giving a free discharge to the contents, and preventing an accumulation in any of the cells. On the whole, it may be laid down as a therapeutic principle, that the incision of the swelling and the subsequent employment of some means to establish suppuration in the cyst, seem to be the best method of treating almost every encysted tumor of the neck, whatever be its origin or seat.

The complete extirpation of the sac may be recommended when this is not very large nor closely adherent to the surrounding parts.—*Archives Generales de Médécine.*

HINTS ON THE TREATMENT OF WOUNDS AFTER OPERATIONS.

The following brief passages are extracted from a letter which M. *Phillips* of Liege has recently addressed to M. *Baudens*, the distinguished chief surgeon of the French army in Africa.

. . . . After an amputation in a joint, the flaps should be brought and kept together by a few stitches, in order to promote union by the first intention; but as adhesion rarely, or perhaps never, takes place between the surface of a cartilage and the contiguous flesh, we should not only remove as much of it (the cartilage) before closing the wound, but also place a small portion of lint upon it, so as to encourage suppuration at this point, while the rest is retained in exact contact. The annals of surgery afford scarcely one instance of complete and perfect union, without suppuration, of a wound after a disarticulating amputation.

The disarticulation of the femur performed by the late M. *Delpech*, where the wound healed almost immediately, is perhaps the most fortunate case on record. The patient had suffered from disease of the femur for nearly 19 years, and he was falling into a state of marasmus. The crural artery being first tied, the chief flap was formed from the muscles on the inside of the limb; the head of the bone was then easily disarticulated, and the operation quickly finished. The two flaps were kept together by numerous stitches, which traversed the integuments only.

On the sixth day, there was a serous oozing from the wound, and on the ninth, a very slight suppuration. On the 28th, the cicatrization was complete; but about the end of the second month, a white substance presented itself; this was the cartilage of the joint. It was immediately removed, and the wound speedily healed.

Such an occurrence—as that of the cartilage making its way to the surface with no local or general disturbance—is excessively rare, and should not influence our practice much. We are therefore of opinion, on the whole, that whenever an amputation is performed at a joint, an issue or opening should always be left opposite to the cartilage, while the rest of the wound is retained together by sutures.

Even after ordinary amputation, where a bone has been sawn across, some surgeons have recommended that the same practice be pursued; but, without positively admitting the propriety of so general a rule, it is worthy of remark that, when the two ends of a bone are sawn off in cases of ununited fractures, not only is there a better chance of a union taking place, but this union is always much firmer and more solid, when suppuration has been established at the point of junction, than when immediate adhesion of the wound has occurred. Such was the opinion of M. *Delpech*; a high authority certainly on all subjects of practical surgery.

. . . . . Numerous statistical reports of the mortality after amputations of the larger limbs have been published of late years; but, from the imperfection of their details, such as the mode of dressing after the operation, the use or not of sutures, &c. &c., it would be unsafe to draw any positive inferences. The success of M. *Percy*, after the battle of Neubourg, deserves however to be alluded to, in consequence of certain circumstances. There was such a want of many of the most necessary articles, as lint, ointment, and bandages, in the French camp, that all the patients were dressed indiscriminately with merely cold water. It is probably to this very circumstance that the great success of the surgeons, in the results of their operations, was attributable on that occasion. For some years past, the same practice has been adopted by Mr. *Liston* at the London University hospital, and M. *Phillips* has of late universally followed it with very marked benefit, after almost all his operations.

In all severe injuries of, as well as after operations on the eye, M. *P.* always subjects the part to the action of cold water for several days. Also after the extirpation of tumors, when the lips of the wound have been brought and kept together by several stitches, compresses wetted frequently with cold water are laid invariably upon the part. M. *Phillip* mentions that in such cases he generally unties the ligature at the lower angle of the wound on the day after the operation, for the purpose of giving exit to any bloody or other kind of discharge, and after removing this, he again secures it. On the third or fourth day he removes one ligature, and another on each day successively; continuing the use of the cold applications all the time. M. *P.* trusts to *torsion* of the arteries to arrest the hæmorrhage, after many such operations. There is very little doubt that this simple expedient, if really sufficient as a hæmostatic means, must contribute very materially to the speedy union of wounds, as each ligature on a blood-vessel must necessarily give rise to a point of suppuration and to a minute sinus or fistula extending from the tied vessel to the surface of the wound.—*Bulletin Med. Belge.*

ON THE ADVANTAGES OF DELAY (EXPECTATION) IN THE TREATMENT OF COMMINUTED FRACTURES.

The great aim of the surgeon consists, or ought to consist, in preventing the necessity of any cutting operation, and in curing his patient without having recourse to the knife. Every operation, it has been well remarked, may be considered as an opprobrium of the surgical art, and as an admission on the part of the surgeon of the inefficacy of his own skill. Influenced by the truth of this sentiment, we propose to endeavour to point out the advantages of *expectation* in the management of certain severe injuries of the joints and limbs. By this term we wish to express a prudent and well-considered delay for several days after the receipt of a severe accident, and during which time a skilful management of all the symptoms, constitutional as well as local, is perseveringly pursued—so that on the one hand a fair chance is given to Nature to repair the damage, and on the other hand, that the health of the patient is not unwisely risked too far before any mutilating operation is resorted to.

It is perhaps the more necessary to call the attention of surgeons to this most important subject in the present day, as there seems to have been, for many years past, a tendency to rather precipitate conduct in the treatment of severe and complicated injuries of the limbs, by having recourse to immediate amputation of the extremity. Encouraged by the precepts and example of our military surgeons—who, it is to be remembered, are often under the painful necessity of amputating at once in cases where, in more favorable circumstances, the limb might be saved by delay—and misled by reports and statistical details of many writers who have certainly exaggerated their own success, practitioners seem to have forgotten the advantages of a *sage reserve*. Certain it is, that the more experienced a surgeon becomes, the less hasty is he to lop off limbs at once, and the more inclined he is to give the system a fair chance of repairing the injury—without however delaying an operation too long, if such be absolutely necessary.

The judicious employment of local and general bleeding, of refrigerant drinks, of low diet, &c. in robust and plethoric constitutions, and of opiates and other anodynes, along with these means, in such as are feeble, lymphatic, and nervous, will often serve to prevent, or at least to mitigate, the severe symptoms which follow as a matter of course, every serious injury or wound. At the same time, the free incision (*debridement*) of such parts as may be tense and confined, the extraction of splinters which are always a cause of much pain and irritation, the resection of any protruded bones, the adjustment of opposite surfaces by means of stitches or bandages, the continued affusion or irrigation of cold water on the seat of the injury, the employment of emollient or resolving remedies according to existing indications, the use of the starched bandage (*bandage amidonné*) as soon as the first or inflammatory accidents have passed away, and the administration of internal or external revulsives when any complication supervenes—these means, if judiciously practised, will in very many cases enable the surgeon to conduct his patient through numerous dangers and difficulties, and restore him to health without having undergone any loss or mutilation. The salutary effects of one or two large blood-lettings, in cases of severe injuries of the limbs, are well known to most practical surgeons; many an unpleasant accident might be avoided by the prompt and decided use of the lancet.

In reference to the application of leeches in such cases, it may be useful to state that they should be applied not to the immediate vicinity of the injury, but at some distance from and above its seat, and if possible near to the point where the smaller veins terminate in the larger trunks.

The irritation caused by leech-bites close to a contused or lacerated wound has often caused serious mischief.

We have already alluded to the advantages of removing any tension in the wounded part by means of one or two free incisions. Some surgeons have of late years questioned the propriety of this practice; but fortunately they have made few converts to their opinion, and the value of the precept is now very generally acknowledged. In many cases we should not wait until the inflammatory tension takes place before we have recourse to this practice, as it is much easier to prevent than to relieve the mischief.

The following are said to be the good effects of a continued irrigation of the injured part with a stream of cold water. "It arrests inflammation, checks the swelling of the tissues, soothes pain, lulls sympathetic irritations, and stifles any sanguineous reaction; the tissues bathed, as it were, in a permanent bath, become pale and colourless; their vessels no longer receive more blood than is necessary for the support of their organic life; suppuration is established slowly and scantily, and the reparative process is not disturbed by any violent excitement either in the part itself or in the system. The water should be of the ordinary temperature; and the limb should be placed in some apparatus which protects the bed from wet, and the parts, which are not exposed to the current, should be enveloped in warm flannel. By attending to these precautions, the risk of any pulmonary or abdominal irritation will be prevented, and the irrigation may be safely continued until all chance of inflammatory excitement has passed away."

In some cases, however, as when there is any tendency to pneumonia or enteritis present, or when the injured parts have been so severely bruised as almost to have lost their vitality—the use of cold affusions is inadmissible. Then we should have recourse to opiate cataplasms, which are especially useful when the process of suppuration is commencing.

With respect to bandages, they cannot be too simple and lightly applied at first. Whenever the risk of inflammatory action is over, and the use of the cold irrigation is therefore unnecessary, there is no remedy so useful in promoting the cicatrization of any wound and the solidification of the callus between the fractured ends of the bones, as the employment of the starched bandage or roller.* It has the great advantage of giving such equable support to the injured limb that the patient may move it about in bed, or even walk upon crutches without any danger; and thus much of the sufferings, which are almost inevitable upon long confinement, is prevented. Moreover it is light, easily applied, and when once adherent is not liable to be displaced. It requires renewal only when, from the subsidence of the swelling of the limb, it has become rather loose around it, or when it is much soiled by the discharges. Openings must be cut in the bandage over the seat of any wound, so that this may be regularly dressed. We regard the employment of the continued irrigation of the injured part and of the subsequent application of the *starched bandage* as two of the most valuable acquisitions which the art of surgery has obtained in modern times, and as destined to introduce, in the treatment of comminuted and complicated fractures and such-like injuries, a most beneficial revolution.

---

* This—the *bandage amidonné*, which has for the last few years been so highly recommended by MM. *Seutin*, *Velpeau*, and other continental surgeons, as constituting by far the best immoveable case for fractured limbs—is merely a common roller soaked in starch mucilage before it is applied. When it becomes

As to the sympathetic or constitutional phenomena, which usually attend all very severe accidents, no general rules can be given how they are to be obviated or relieved. The surgeon's duty is to question, as it were, every organ, so that no symptoms, however obscure and latent, can escape his notice. It is unnecessary to insist upon the prompt adoption of appropriate treatment whenever any signs of an internal phlegmasia make their appearance. But, even under such circumstances, depletions and evacuations must not be carried too far; for it should ever be kept in mind that there is a time for the use of cordials and tonics as well as for that of antiphlogistic remedies.

In illustration of the foregoing remarks, the following cases will perhaps be read with interest.

A sailor was struck in the arm by a large splinter of wood, which had been broken off by a cannon-ball. The lower end of the left humerus, close to the condyles, was broken in several pieces, and there were two contused and lacerated wounds about the joint: the capsular ligament also was found to be ruptured. The two wounds were made into one by a transverse incision; the limb was placed in an easy extended position, and kept constantly irrigated with goulard water; the patient was bled twice in the course of the first day; and an opiate mixture was administered occasionally. On the third day, feverish symptoms setting in, another venesection was practised, and the same mode of treatment in other respects was ordered to be continued. On the seventh day suppuration commenced, and opiate cataplasms were therefore substituted for the cold irrigation. The purulent discharge became greater and greater, and hectic symptoms began to make their appearance. But these gradually subsided, when all the sequelæ of bone were discharged, and then the process of solidification and union went on favourably. In spite of all the endeavours of the surgeon to preserve some degree of motion in the joint, it became anchylosed. The arm however, although stiff and motionless at the elbow, was of the greatest service to the patient, when he was discharged cured after six months' treatment.

In the management of wounds of the elbow-joint, M. *Reynaud*, chief surgeon of the hospital at Toulon, insists much on the good effects of frequently changing the position of the limb, and of moving it about in various directions towards the close of the treatment, so as to prevent the occurrence of complete anchylosis.

Case 2.—A sailor on board the *Trident* had his fore-arm crushed between a

---

dry, it forms a firm case round the limb, so that the patient may move it about, or walk on crutches without any risk of displacing the bones. An abstract of a paper by M. *Velpeau*, on the use of this and other kinds of agglutinative bandages, in the treatment of fractured limbs, will be found in the Medico-Chirurgical Review, for July 1838.

carronnade and one of the yards of the ship: both the radius and ulna were broken in several places, and the soft parts were severely bruised and lacerated. By means of one or two incisions all tension of the injured parts was relieved, and a free opening was made for any splinters of bone to escape. Several of these were removed at the time, and the limb, being placed in a fracture box, was kept constantly irrigated with cold water, by means of a syphon which communicated with a jug at the side of the patient. He was bled twice in the course of the day, and cooling febrifuge medicines were administered. The progress of this case was most satisfactory. Several pieces of bone were discharged, and the purulent secretion becoming gradually less in quantity, the several wounds cicatrised. It was now found that a false articulation existed between the fractured ends of the radius, which it had not been possible to retain together in strict contact.

By, however, surrounding the limb at this part with numerous strips of plaster and then enveloping it with the starched bandage—which were kept on for forty days—a union took place. When the patient left the hospital, the fore-arm, although far from retaining its normal freedom of motion, was serviceable for almost every exertion.

The *third* case is one of extensive wound in the knee-joint.

A sailor fell into the hold of a vessel among pieces of broken glass, &c. One of the fragments had penetrated into the left knee-joint, and had caused a very large wound immediately below the patella. This bone was retracted upwards nearly three inches, in consequence of the complete division of the patellar ligament. The internal lateral ligament also was partially cut across, and the capsular ligament of the joint was laid open so extensively that the articular surfaces of the femur and tibia were quite exposed. A small fragment of glass was actually imbedded in the substance of the crucial ligaments. This was removed, and the lips of the wound were brought together, the oozing of blood being stopped by the application of cold water. Wishing to save the limb if possible, M. *Cabissol,* the naval surgeon in attendance and the writer of the preceding remarks, adopted the following practice. The limb was laid upon a long splint which extended from the pelvis to the heel. The wound was united by means of four stitches, assisted by a bandage. A continued stream of cold water, by means of a syphon immersed in a jug placed above the patient, on the joint was perseveringly kept up, and the patient was bled from the arm. Next day sixty leeches were applied at some little distance from the joint, and the bleeding was repeated from the arm. From this date, there was no swelling, pain, nor fever, and by the twelfth day the wound was found to be cicatrised.

On the 22nd day, the cold irrigation was discontinued, and the joint was enveloped in the folds of the starched bandage, so as to retain it perfectly motionless, and promote anchylosis, the occurrence of which M. *Cabissol* considered to be inevitable. The patient was then permitted to move about on crutches. At the end of the sixth week, the knee had recovered its normal size, the patella had nearly descended to its right place, the divided ends of the ligament were united by a plastic nodosity, and there was still a slight power of flexion in the joint, so as to give grounds for hope that the anchylosis might not be complete.—*Bulletin General de Therapeutique.*

LUMBRICI DISCHARGED FROM AN UMBILICAL ABSCESS.

A youth of a leuco-phlegmatic temperament, had been long confined to his bed with all the symptoms of *tabes mesenterica*—such as tumefaction of the abdomen, irregular appetite, feeble digestion, and an almost constant fever. He had been in this state for upwards of a twelvemonth, when he began to experience sharp pricking pains over the left portion of the transverse colon, at about four inches from the umbilicus. In the course of a fortnight these pains became more severe; a circumscribed swelling made its appearance about the umbilicus, and this in the course of a short time proved to be an abscess. It broke of itself, and gave issue to a quantity of purulent matter. On the fifth day afterwards, a *lumbricus* worm escaped from the wound; and a few days subsequently another, and then another, so that at length five of these entozoa were discharged. Along with the last one, there was an issue of matter, which had a distinctly stercoral fætor. No unpleasant symptom supervened; the abscess gradually healed up, and eventually the patient was restored to perfect health.—*Il Filiatre Sebezio.*

RUPTURE OF THE TENDONS OF THE TRICEPS AND RECTUS FEMORIS MUSCLES.

A man, 74 years old, fell forwards when mounting a flight of stairs and his left thigh struck against the edge of one of the steps: he could not rise.

Upon examining the limb, it was at once obvious that the common tendon of the triceps and rectus muscles was completely ruptured across immediately above the patella: the distance between the two separated ends was so great as to admit four fingers. The patient had lost all power of moving the limb in any direction. It was placed in an extended position, such as is adopted in treating fractures of the patella. In spite of some troublesome symptoms during the first and second weeks, the progress of the case was eventually very satisfactory; for at the end of two months the re-union seemed to be perfect, and the patient could raise the limb with tolerable ease from the ground; and, in three or four months more, he could walk up and down stairs without any difficulty or appearance of limping. The old gentleman died from an attack of apoplexy in the course of the following year, and Dr. *Martini* his medical attendant, was permitted to examine the body. He found that the re-union of the two ruptured ends of the tendon was effected by an intermediate semi-ligamentous substance, which was not more than an inch in breadth: there were no abnormal adhesions; but two or three very distinct cicatrices on the capsule of the knee-joint proved that it too must have been partially ruptured in more than one spot.—*Medicinische Corresp. Blatt.*

TREATMENT OF POISONING BY ARSENIC WITH STIMULANTS.

Royal Academy of Medicine, 30th July.

M. *Ollivier* communicated, in his own name and in the names of MM. *Amussat, Bouillaud, Husson,* and *Lecanu,* a report upon a memoir of M. *Rognetta,* in which the author endeavoured to establish the comparative value of antiphlogistic and of stimulant means in the treatment of poisoning by arsenic. M. *Rognetta* had performed numerous experiments on dogs, the results of which went in his opinion to prove that the latter remedies were to be preferred; and that bleedings, &c. are in truth hurtful, as had been asserted in the writings of *Rasori* and *Giacomini* of Italy.

There were three sets of experiments; in one, a solution of arsenic was injected into the cavity of the peritoneum; in the second series, the salt in a state of powder was introduced into the cellular substance of the neck; and in a third set, a solution was injected into the stomach of the animal, and vomiting was prevented by tying a ligature round the neck.

1. All the dogs, in the first series of experiments, died in from 9 hours to 4 days, according to the strength of the solution that was used. Those, which were bled immediately afterwards and in which the venesection was repeated, died in a shorter time than either the animals to which tonics—consisting chiefly of a mixture of broth, brandy and wine*—had been given, or those to which nothing was done or administered.

2. In the second series of experiments, two dogs, to which nothing was done, and also the two dogs to which stimulants were given, died; whereas two only out of the six dogs, which had been freely bled, died: the period of death in all varying from 8 to 12 hours after the experiment.

3. In those dogs, into whose stomachs the arsenical solution (from 6 to 14 grains) was injected, the mortality was as follows: of thirteen, which were bled once or several times, eleven died; of thirteen, which were treated with stimulants and narcotics, only five died; and of nine, to which nothing was either done or given, eight died.

It must be here noticed that of the eight dogs which recovered under the use of the stimulating and narcotic treatment, we have only insufficient data in reference to some of the most important features of all such cases—as, for example, whether vomiting took place, and if it was frequent and energetic. In four only out of the eight animals did vomiting—at least we are not informed to the contrary—occur. This want of information is certainly to be regretted; as, in all experiments upon poisonous substances, it is of the very first importance to know whether the poison was entirely retained, or whether it was partially rejected by vomiting—more especially when the poison has been administered in a state of solution. Arsenic, when it has been taken for the purpose of self-destruction, is usually taken in a solid form, mixed up with some thick pudding substance. It thus attaches itself to the parietes of the bowels, and is much less easily detached and rejected than if it had been in a state of liquid.

Forty-seven dogs in all were subjected to the experiments; of these 19 were bled, 20 were treated with stimulants, and 9 were left without anything being done. Of the first, 19, sixteen died; of the second, 20, eleven died; and of the last set, 9, eight died.

In addition to the lesser mortality among the dogs which were treated with stimulants, it was observed that they more quickly recovered from the effects of the poison than those which had been bled.†...... The reporter, M. *Ollivier*, in conclusion proposed that M. *Rognetta* be thanked for his interesting communication, and be requested to continue his researches.

M. *Orfila* spoke to the following effect.

Before entering on the present discussion, I can assure you, gentlemen, that although an author on toxicology I am quite disinterested and free from all prejudices one way or the other. I have not advocated the adoption of blood-letting and the use of other antiphlogistic measures either indiscriminately or under all circumstances of poisoning with arsenic; for it will be found on consulting my work, that, after quoting the cases related by some writers in favour of this mode of treatment, I have simply said, "I regard it as useful whenever symptoms of inflammation have made their appearance."

In estimating the value of any curative means in cases of poisoning, whether from arsenic or from other acrid substances, it is most necessary to remember that there are two periods in the treatment: in the *one*, we endeavour to expel or withdraw the poison from the stomach, and to neutralize by chemical antidotes* what may remain behind; in the *other*, our aim should be to counteract and subdue the symptoms which arise, whether of inflammation or of debility and exhaustion, of excitement or of stupor. These symptoms too, it is well known, vary much in different circumstances. In one case vomiting takes place very early, while in another it does not come on for some time; in one case the stomach is full at the time when the poison was swallowed, while in another it is empty; and so forth.

---

* If this was rejected by vomiting, more was again given; and if the vomiting was renewed, it was then given as a lavement. Occasionally some laudanum was added to the mixture.

† It results from the experiments of M. *Magendie* and other physiologists, that the detraction of blood encourages absorption.

Now it is scarcely possible to imitate all these varying circumstances, when we give a poison to dogs in the way of experiment. If you give a feeble dose, they will generally vomit it up at once—and vomiting occurs in dogs with great readiness—and be quickly well again, so that scarcely any symptoms of poisoning are observed. This indeed is so frequently seen, that M. *Virey* went so far as to put the question whether arsenic was really a poison to dogs.

But to proceed to the statement of particular facts, I may mention that during the last five years eighteen cases of poisoning by arsenic, where bleeding was resorted to with success, have come under my notice; and M. *Villard* has given me the particulars of other five cases which were equally benefited by the use of depletory measures.

I have also collected the reports of nineteen cases, which have been published in the English journals; carefully noting, among other circumstances, the occurrence or not of vomiting, the frequency with which bleeding was performed in each, &c. &c. and I find that one only of the nineteen patients died. It may also be noticed that the symptoms induced by an over-dose, or by a too-long continued use, of an arsenical preparation in the treatment of cutaneous and other diseases, are generally of an inflammatory or pyretic character, and require the employment of antiphlogistic remedies. All these facts clearly prove that bleeding and other similar measures are highly useful in certain cases, at least, of arsenical poisoning.

Now to come to M. *Rognetta's* experiments, we observe that all the dogs, in which a solution of the poison was injected into the peritoneal cavity, died, whatever course of after-treatment was pursued; and also that one of the animals, to which nothing was done, lived the longest after the experiment.

There is certainly less chance of being deceived as to the results of experiments, when the poison is introduced either into the cavity of the peritoneum or into the subcutaneous cellular substance than when it has been injected into the stomach, if the animal be allowed to vomit; and I (M. *Orfila*) regret therefore that M. *Rognetta* has not pursued his researches in this respect further.

But there is another consideration which it is most important to bear in mind in reference to the present discussion; and that is, when do we ever resort to bleeding immediately after the swallowing of a poison? On no occasion that I know of; for every one knows that *such a practice would only tend to accelerate absorption.*

Let it be also remembered that in 99 cases out of a 100 arsenic is taken in the solid state, when taken by or administered to any person; whereas it was given to the dogs in a fluid form.

In conclusion, M. *Orfila* stated that, while he did not pretend to affirm that depletory measures were necessary or suited to all cases of arsenical poisoning, he was by no means satisfied of the superiority of a tonic mode of treatment by the results of M. *Rognetta's* experiments.*

---

* In poisoning from arsenic, M. *Orfila* recommends the use of the hydrated tritoxide of iron. The reader will find an account of the first experiments made with this ferruginous preparation in the Medico-Chirurgical Review for January 1837, and also the history of a case of poisoning alleged to be successfully treated with it, in the number for April 1839.

M. *Dupuys* agreed with most of the remarks of the preceding speaker. The circumstance of the œsophagus not having been tied after the poison was given, and of the arsenic being in the fluid state, rendered the conclusions to be drawn from M. *Rognetta's* experiments of very doubtful authority.

M. *Bouillaud*—as all our readers know, a most ardent disciple of the Broussaian School—remarked, "I can scarcely believe that the fact of vomiting was the only cause of the difference between those animals which were bled or left to themselves, and those which were treated on the tonic and stimulant plan.

I must acknowledge that I was very much surprised at seeing the dogs swallow so greedily, and retain in their stomachs the alcoholic liquids, from which they suffer so much in a state of health. I was, to say the truth, in a new world of unexpected and most strange impressions, which were the more remarkable when I afterwards saw, on the dissection of the animals, the inflamed state of the gastric mucous membrane; while in those, which had been bled, there was scarcely a trace of inflammation. I repeat that it seems to me that the vomitings alone will not account for the successful effect of the stimulant treatment; for I am not aware that the one set of dogs vomited more than the other set which weie blooded.

I do not wish to apply the results of M. *Rognetta's* experiments to what takes place in the human body, when arsenic has been taken in a poisonous dose; I confine my remark entirely to what I observed myself in the animals that were the subjects of the experiments; and I must again state it as my opinion that in all probability those dogs, which were treated with stimulants, would have perished more quickly if they had been left to themselves, and nothing had been done to them. It does not follow from these admissions that I reject altogether the employment of bloodletting, in cases of arsenical poisoning. On the contrary, I believe with M. *Orfila* that it is useful, nay necessary, whenever reaction comes on.

This apparent inconsistency in my views will cease when I state it as my opinion that arsenic seems to me to act poisonously on the system in two very different ways; *first*, by exerting a specific influence on the blood, changing its properties, and thus giving rise to *adynamia*; and, *secondly*, by exciting an inflammatory and sthenic action in the parts to which it is directly applied.

M. *Chervin* mentioned that he had assisted at many of the experiments performed by M. *Rognetta*, and that the impression on his mind from what he saw was quite favourable to the employment of stimulants. At the same time he was ready to admit with M. *Bouillaud* that the peritoneal phlegmasia must necessarily complicate the results.

M. *Emery* stated that, at the Hospital St. Louis, where the internal exhibition of arsenic is sometimes pushed to the dose of a quarter of a grain, whenever any unpleasant symptoms arise, they are always of a more or less decided inflammatory character—such as quickened and strong pulse, sharp pains in the region of the heart, general feverish heat, &c. Along with these symptoms he has occasionally observed a partial paralysis of the extensor muscles of the hand. In all such cases he has seen benefit follow the employment of bloodletting.

M. *Amussat* professed himself quite a convert to the views propounded by M. *Rognetta*, and stated that, if he had a patient suffering from the effects of a poisonous dose of arsenic, he should certainly give him stimulants, combined perhaps with narcotics.

---

* At a subsequent period of the *seance*, M. *Orfila* alluded to two periods or stages in poisoning from arsenic; the *first* requiring the use of emetics and chemical antidotes, perhaps also of stimulants, if subsequent experiments confirm the results of those by M. *Rognetta*; in the *second*, bloodletting is *parfaitement indiquée*.

M. *Renaulden* admitted the utility of general and local bleedings in cases where small doses of arsenic had been taken: but where the dose has been very large, perhaps all treatment is equally fruitless, and bleeding produces no better effect than any other remedy.

M. *Marc* was not ready to adopt the views of the preceding speaker in reference to the extreme rapidity of the danger and the fatal intensity of the symptoms whenever a large dose of the poison has been taken. He remembered having seen a woman who lived for eleven days, (during the whole of which time she was almost incessantly vomiting) after having swallowed an ounce of arsenic and two drachms of corrosive sublimate. Small doses of poison will often cause death much more rapidly than large ones.—*Memoires de l'Academie.*

Remarks.—The facts elicited in the discussion, of which we have now given a brief account, are highly interesting, and will suggest some useful hints in a practical point of view. We cannot indeed expect to discover any remedial means which hold out much prospect of constant, or even of very frequent, benefit in poisoning from large doses of arsenic. Not only is the depression of the nervous and circulatory systems often fatally great, but there is at the same time such structural disorganisation of the stomach and bowels induced by the contact of the poison when it has been swallowed, that there cannot be the slightest chance of ultimate recovery. *The action indeed of arsenic seems to be partly irritant and partly narcotic.* It is doubtful whether the latter effects are attributable to a direct influence on the heart, or to a primary influence on the nervous system. In the experiments of *Brodie* and others, it was always found that the action of the heart was excessively feeble, although other muscular parts, including the intestines, nearly retained their usual irritability. The collapse and prostation have in many cases seemed to be much greater when the poison was applied to an external wound than when it had been taken into the stomach.

That arsenic seems however to have an almost specific tendency to irritate and inflame the gastric surface, appears from the well ascertained circumstance, that, in several cases of fatal poisoning from its external application, the mucous membrane of the stomach and bowels has on dissection been found highly vascular and even ulcerated. On the other hand, several fatal cases are recorded where no such appearances have been discovered, even although the poison had been swallowed. On the whole, we may conclude that the salts of this metal are narcotico-acrid poisons—acting as debilitants and sedatives of the nervous and circulatory functions, and as stimulants and violent irritants of the surfaces to which they are directly applied.

The following paragraph from Dr. *Christison's* classical work on poisons furnishes an apt commentary on the whole subject.

"The symptoms of poisoning with arsenic may be advantageously considered under three heads. In *one* set of cases there are signs of violent irritation of the alimentary canal and sometimes of the other mucous membranes also, accompanied with excessive general depression, but not with distinct disorder of the nervous system. When such cases prove fatal, which they generally do, they terminate for the most part in from 24 hours to three days.

In a *second* and very singular set of cases there is little sign of irritation in any part of the alimentary canal; perhaps trivial vomiting or slight pain in the stomach, sometimes neither; the patient is chiefly or solely affected with excessive prostration of strength and frequent fainting; and death is often delayed beyond the fifth or sixth hour.

In a *third* set of cases life is commonly prolonged at least six days, sometimes much longer, or recovery may even take place after a tedious illness; and the signs of inflammation in the alimentary canal are succeeded or become accompanied about the second or fourth day, or later, by symptoms of irritation in the other mucous passages, and more particularly by symptoms indicating a derangement of the nervous system, such as palsy or epilepsy.—*Rev.*

EXPERIMENTAL RESEARCHES ON THE OXYDES OF IRON AS ANTIDOTES OF ARSENIC.

The readers of the Medico-Chirurgical Review (vide number for January, 1837) are aware that a German chemist, M. *Bunsen*, has proposed the hydrated peroxyde of iron in a moist state as an antidote to arsenical poisoning.

The value of the remedy has been confirmed by several other experimenters; and as the compound formed by the union of the two metallic salts is quite insoluble and inert, there is every reason to believe that, if a complete union could take place in the stomach when the poison has been swallowed and before it has produced its deleterious effects, many a life might be saved. As far as we know, there is only one case on record where the peroxyde has been used in the human subject; and in that case it was used with success. It is reported in the Revue Medicale, and an account of it was given in one of our recent numbers.* The only objection that has been made against the moist peroxyde is the tediousness of preparing it, its inconvenient bulk, and the difficulty of keeping it for a length of time.† A committee was recently appointed by the Society of Medicine to examine the subject in all its details, and to endeavour to discover a substitute for the moist peroxyde recommended by M. *Bunsen*.

The report of this committee has been published, and we shall extract one or two of its most important paragraphs.

After a few prefatory remarks, it is stated, " we do not hesitate to assert that the arsenious acid is *victorieusement combattu*, not only by the moist peroxyde of iron proposed by M. *Bunsen*, but still more effectually and more easily at the same time by the dry hydrated peroxyde—the subcarbonate of iron of the chemists.

This is readily prepared by precipitating the proto-sulphate of the metal by carbonate of potash and washing the precipitate repeatedly. By exposing it freely to the air during desiccation, it becomes completely oxydated, loses its carbonic acid, and is then in short a dry hydrated peroxyde:—100 drachms of this precipitate, when calcined, yield 69 drachms of an anhydrous peroxyde.

The reporters acknowledge that the wet preparation recommended by M. *Bunsen* has in many experiments fully answered the promises held out by that chemist, provided it be administered in sufficiently large doses. But, as we have already said, the objection to this preparation is the length of time required to make it, and its most inconvenient bulk. If therefore the dry peroxyde will answer as well, it must be, considering the facility with which it may be obtained, altogether preferable. Now in numerous experiments performed by the reporters, its antidotal efficacy was very remarkable when the dose of the poison had not exceeded four or six grains.

The first thing to be done is to encourage vomiting as freely as possible. But in doing this, the patient should be made to drink copiously of milk or of oil, and not of water, to prevent the further solution of the poison. Whenever the vomiting is carried as far as is deemed adviseable, a quantity of lukewarm water, in which several ounces of the dry peroxyde of iron are suspended, should be administered. If it is rejected by vomiting, so much the better; we have only to repeat the dose immediately.

---

* Vide Medico-Chirurgical Review, April 1839.

† The mode of preparing it is by peroxydising a solution of sulphate of iron by the means of nitric acid with the aid of heat, and then adding pure liquor ammoniæ: the supernatant liquor is to be drawn off the flocculent precipitated peroxyde; and fresh water must be poured on it and decanted off several successive times. The process requires, according to M. *Guibourt*, four or five hours.

The Committee suggest that half an ounce of the dry peroxyde should be given for every grain of the arsenic that may be in the stomach.

For the particulars of the experiments, chemical and physiological* (on dogs), for the purpose of determining the effects of the peroxyde in neutralising arsenious acid, we must refer our readers to the numbers for May and June, 1839, of the—*Revue Medicale.*

ON THE DETECTION OF ARSENIC IN THE BLOOD, FLESH, AND VISCERA, AFTER DEATH FROM POISONING.

M. *Orfila* has, for the last two years, been engaged in a series of experiments to determine whether the presence of arsenic can be detected in the blood and the solid parts of the body after death in cases of fatal poisoning. During last year, he submitted to the attention of the Royal Academy of Medicine a chemical process—which consisted in treating the parts subjected successively with nitrate of potass, sulphuric acid, and with potassa and alcohol—for this purpose. It is however very tedious and also uncertain; and he has therefore substituted another, which he deems to be a great improvement: it is the following.

Take the liver, spleen, lungs, or a certain quantity of the blood of the animal, that has been poisoned with arsenic, and dry them thoroughly. The dried mass is then to be treated in the heat with concentrated and purified nitric acid; in the course of a quarter of an hour or so the whole mass will be dissolved.—The liquor is concentrated; a dark point appears, and soon the carbonisation is complete. It is then to be treated with cold water. The solution is introduced into *Marsh's* apparatus and submitted to the hydrogen test.

In performing the experiments, we must carefully be upon our guard not to raise the temperature of the mixture too high, and also not to use too large a proportion of nitric acid. If more than sufficient be used, the flame is too vehement; and almost all the arsenic will be destroyed. Again, if the heat applied be not sufficient, the carbonisation is not complete, and a disagreeable pyrogenous odour, similar to that of burnt horn, is emitted. Several hours are required for the experiment; and sometimes, even with the greatest care and dexterity in performing it, a portion of the arsenic is lost.

The following are the proportions of nitric acid recommended by M. *Orfila*, to be used with the different parts of the body submitted to the experiment. For three ounces of dried blood, seven ounces of the acid are required; for one ounce of dried gelatine, one ounce of acid; for three ounces of the residue obtained by decoction of the limbs, nine ounces of acid; for six ounces of dried cerebral matter, four ounces of acid; and for all adipose matters, a very large proportional quantity of the acid is necessary. Twelve ounces of dried liver require thirty-four ounces of acid; whereas twenty-two ounces of muscle require only sixteen ounces.

By following the proportions now given, and provided at the same time care has been used in effectually drying the substances submitted to experiment, *on est sur de reussir presque constamment.* We may not indeed succeed in recovering all the poison, but much less will be lost in this than in any other way.

---

* It is mentioned in the report that *small doses of arsenic*, say four or six grains, *proved more quickly fatal than larger ones*, as from 12 to 40 grains. The absorption seems to go on more rapidly when the dose is small.

M. *Orfila* gave the particulars of the following instances, in which he had successfully practised the method now described.

1. In a dog, which died after having swallowed 12 grains of arsenic, all the organs were submitted to the experiment; and in every one of them traces of the metal were discovered.
2. The liquid obtained from the decoction of the limbs of *Soufflard,* although previously treated with sulphuric acid, gave the same results.
3. Very recently in the case of a man of the name of *Lorrain,* who died after having taken a large dose of arsenic, a part of his limbs being treated with nitric acid and carbonised, and then submitted to the proper tests, furnished the well known signs of its presence.
4. The same was the case in the liver taken from the body of the man *Mercier.*
5. Lastly, in a woman who poisoned herself a month or two ago, equally satisfactory results were obtained by experimenting on ten ounces of blood which had been taken from the arm. This patient recovered.—*Memoires de l'Acadamie.*

If the expectations of M. *Orfila* be confirmed by the researches of other physicians, the science of toxicology will have achieved a most important discovery. It is well known that if a person, to whom a poison has been given, survives for several days, perhaps no chemical traces whatever of its presence in the stomach or intestines will then be detected on dissection, although the death has been indisputably owing to its effects. The poison has in fact been absorbed and taken into the circulation. That such is the case with arsenic, if the quantity taken has not been excessive, cannot now be questioned for a moment; as M. *Orfila* has succeeded in detecting it not only in the blood, but in almost every one of the solid textures of the body, when all traces of its presence in the intestines had disappeared. The following illustrative case will be read with interest.

On the 22nd of December, 1838, a man died at ——, with all the symptoms of being poisoned. He was however buried, without any examination having taken place.

A fortnight afterwards, the body was disinterred, and submitted to anatomical inspection. The intestines exhibited all the usual lesions characteristic of poisoning by arsenic. Their contents were examined with great care by some experimental chemists; but no traces of arsenic could be detected: the body was again buried. Fresh suspicions however having arisen about three or four months later, M. *Orfila* was then consulted. The body was again taken up and sent to Paris for the purpose of being examined by him. It was in a state of complete decomposition at the time: the stomach and intestines no longer exhibited any traces of their original structure, and all the other parts were more or less disorganised. Notwithstanding the circumstance of the body having been twice exhumed, and submitted to all the mangling of a *post-mortem* examination, not to mention its decomposed state from putrefaction, M. *Orfila* succeeded in detecting the presence of arsenic in the liver and in the limbs, as well as in the water of the barrel in which the rest of the body was kept.

We may also mention that he has obtained unequivocal traces of this metal in the blood, which had been taken from the arm of a patient to whom this poison had been given. It is therefore of great consequence to withdraw a certain portion of blood from the arm in all cases of suspected poisoning.

We must not however forget that, according to some recent analyses of animal bodies, it would seem that there is a minute quantity of an arseniate of lime in the bones, and perhaps also in some of the other textures, in the healthy state. M. *Orfila* admits the truth of this statement himself, but he has pointed out, at the same time, how the fact does not affect the results of medico-legal enquiries.

His experiments clearly show that the natural arsenical compound is not soluble in boiling distilled water, (kept constantly neutralized by an alkali,); whereas, on the contrary, the poison, absorbed into the circulation and disseminated through the organs of the body, is readily extracted by boiling for some hours in water.

We need scarcely say that it is of the utmost importance that the chemist should be most careful as to the purity of all his vessels, whether metallic or earthenware, and of all the chemical tests and agents which he uses, in any medico-legal examination to detect the presence of arsenic in animal bodies. A minute portion of this metal has, for example, been occasionally found in the sulphuric and nitric acids of commerce; also in vessels of iron and tin: and, lastly, in the composition of certain soils.—*Gazette Medicale.*

M. MAGENDIE ON THE ALTERATIONS OF THE BLOOD IN DISEASE.

M. *Magendie,* in his lectures on the Physical Phenomena of Life recently delivered in Paris, has, it may be supposed, carried all his favourite doctrines *a l'outrance.* It is not an easy matter to give the reader an idea of the contents of these lectures, as they embrace so many topics, and are mainly taken up with the record of numerous experiments on living animals—poor brute creation—and of the conclusions which our author has deemed that these experiments warrant.

His great aim seems to be to account for most of the phenomena of life by the same laws which are found to operate on dead or inorganic matter. Thus, for example, the function of absorption—hitherto regarded as a vital act—is attributed altogether to what our athor terms *inhibition,* another phrase for capillary attraction. How he can reconcile this notion with the manifestly *elective* power of the lacteals in absorbing certain matters and rejecting others, does not very clearly appear; but M. *Magendie* has a most convenient way of getting rid of difficulties—he only denies the truth of the objection, and challenges implicit reliance to all his own statements.

As an instance of this very comfortable self-assurance, he takes for granted that his favourite dogma of the veins being the proper, indeed the only, absorbing vessels of the body is assented to and admitted by all physiologists—although there is, perhaps, not a single one in Europe who agrees with him to the full extent on this point. Again, he boldy hazards the assertion that all poisons act *solely* by being absorbed into the current of the circulation, and that the rapidity of their operation is always proportionate to their solubility, and the facility with which they may be absorbed

Such an assertion is, we need scarcely say, quite at variance with the opinions of the most able physiologists as to the *modus operandi* of prussic acid, opium, tobacco, and such like poisons.

The highly important and curious subject of contagion occupies a considerable share of M. *Magendie's* attention.

Here, again, he is at issue with most of his brethren. The French quarantine, it would seem, recognises (we will not say with what propriety) five contagious diseases—plague, typhus, yellow fever, cholera, and leprosy. According to our author, "The contagion of the last four of these diseases is positively denied by every intelligent physician."

It is quite amusing to observe the cool assurance with which this *dictum* is put forth.

To pass to the hitherto obscure subject of the ætiology of typhus and yellow fevers, M. *Magendie* at once solves the difficulty, by informing us that we have only to inject into the circulation of an animal a few drops of putrid animal matter, and then we shall have all the symptoms of these diseases manifested. Hence, says he, we may reasonably conclude that the cause of these fevers must be the absorption into the system of the miasm arising from decayed animal matters. In proof of the truth of this, he alludes to the instance of a vessel laden with fish from Newfoundland, which was stranded on some part of the French coast: the fish putrifying, the neighbouring village became the focus of a pestilential typhus fever; and this continued to rage, until the putrid fish was washed into the sea.

This reasoning will not satisfy the medical logician that there are no other causes of yellow fever, but the miasma of decaying animal matter. M. *Magendie* entirely omits from his consideration the influence of marsh miasmata: but for what reason we do not well know, except that such an admission does not quite accord with his theories.

But, while objecting to the dogmatic tone of the assertions of our author, let it not be supposed that we regard them as altogether visionary and untrue.

It has long appeared to us that the various theories which have been proposed, during the last half century, to account for the phenomena of pestilential fevers cannot stand the test of rigorous examination, and that the leading and essential defect in them all is that the changes in the circulating fluid have been too much overlooked. It has unwisely been attempted to refer every symptom and phenomenon to changes in the solids alone; and thus the practice, which has been based upon this supposition, has been directed almost exclusively to mitigate or remove such changes. The Broussaian school has urged this doctrine to the most *outré* and the most pernicious extreme. A new state of things seems about to succeed.

That a modified and restricted system of humoral pathology has been springing up of late years in France, as well as in our own country, is no doubt well known to all our readers. In the last number of this (the Medico-Chirurgical) Review, we gave a brief notice of a clever paper by M. *Raciborski* on the state of the blood in inflammatory and in typhoid diseases, and we then quoted the opinions of that admirable pathologist, M. *Andral*, in confirmation of the writer's views.

In his recently-delivered lectures on the blood, M. *Magendie* has carried this, as he usually does every other, notion to a most extravagant length, and he treats with the utmost contempt the researches of modern pathology, or pathology of the mere solids, which he designates as a mere chaos and a science which yet remains to be created. He seems to think that no advantage can result from morbid anatomy of the solid parts alone, unless a scrupulous attention be given at the same time to the state of the fluids of the body. In proof of this he appeals to the history of fevers.

The rapidly fatal progress of some he attributes to a sudden alteration in the constitution of the blood itself; and, in this respect, he adopts very nearly the views of the older humoral physicians, *Van Swieten*, *Huxham*, &c. "For example," says he, "a woman was brought into the Hôtel Dieu with all the premonitory symptoms of some severe acute disease—it was believed to be of variola. In the course of the afternoon, the state of the patient became suddenly much aggravated; *purpura* shewed itself, and death supervened within 30 hours.

Now the phenomena found on dissection in this case were exactly the same with those which I have repeatedly shewn you in the bodies of animals, into whose circulation I had injected some poisonous or putrid fluid.

In such cases, and in similar rapidly fatal diseases, the blood we find has lost its property of coagulating when drawn. Now—what seems rather strange at first—whenever this condition of the blood exists, the circulation appears to be more seriously embarrassed than from any other cause."

A few remarks on this topic may be interesting, and explain the circumstances here alluded to.

When we consider that the blood consists of a fluid which holds in suspension numerous globules of a determinate size and form, and when we compare the size of these globules with the excessively small calibre of the capillary vessels through which they pass, we are surprised that the circulation can go on so evenly and uninterruptedly as it is known to do.

Our surprise must be increased when we find that fluids of much less dense composition than blood, nay that pure water itself, cannot be made, even when considerable force is employed with the injecting syringe, to pass readily from the arterial into the venous set of vessels after death. True, we must bear in mind that the living textures of the body may have properties and have powers of accommodation, which are, in a great measure, lost after life is extinct; but still it will be admitted as a remarkable fact that fluids of thinner consistence than blood should find so much difficulty in passing through the minute vessels.*

The explanation—at least in part—of this circumstance would seem to be that, whenever the tenuity or thinness of the blood is greater than in health, there is a marked tendency to its exuding from the minute vessels, and thus becoming extravasated into the adjoining tissues. But whether this explanation be correct or not, it is quite certain that any change in the composition of the blood is immediately followed by a disturbance of the circulation, and by a series of morbid symptoms which are found to vary according to the nature of the change. If the blood has become thinner, there will inevitably supervene either engorgement or even inflammation of some organ or organs, or œdema, or purpurous patches, &c. Now let us consider what are the conditions of the system, and what are the causes which induce a preternatural thinness of the blood, —premising that the consistence of this fluid depends chiefly on the proportion of the fibrine to the other ingredients.

I will mention to you, says M. *Magendie*, addressing his pupils, an experiment, which I have repeatedly performed:—

If any substance, which will unite and form a compound with the fibrine, be injected into a blood-vessel, the blood will very quickly lose its power of coagulation. Now any of the alkalies will effect this; they combine with the fibrine and form *fibrinates;* and the consequence of this combination is that the fibrine will no longer coagulate, when the blood is drawn and allowed to rest.

This experiment shews that the blood may lose its property of coagulability, without any necessary deficiency in the quantity of fibrine from some abnormal change in its properties. It is, therefore, not to the mere diminution of the quantity of this ingredient, so much as to a change in its properties, that we are to ascribe what has been called a *dissolved* state of the blood. Such a change of the circulating fluid exists in all malignant fevers; and it is owing to the difficulty and embarrassment of transmission which this altered blood must experience—as explained in the preceding page—in the capillary vessels, that œdema, congestion, inflammatory engorgement, hæmorrhages, petechiæ, and other similar symptoms are so frequently observed in these diseases. The pathological appearances found in the lungs, brain, intestines, &c. are all *primarily* attributable to an altered state of the blood; in consequence of which, this fluid has exuded through the capillary vessels in certain parts.

---

* M. *Magendie* says, that, whereas water cannot be made, by any force of impulsion, to pass through glass tubes of less than one-tenth of a *millimetre* in diameter, the diameter of the capillaries does not exceed one-eightieth or even one-hundredth of a *millimetre.* If we inject water into the mesenteric artery of a frog, a very small portion only will reach the mesenteric vein, the greater part having become effused into the surrounding textures. M. *Magendie* suspects that *Ruysch*, the Dutch anatomist, who acquired so high a repute for his minute injections of the blood-vessels, probably made use of some fluid which had some analogy in point of consistence with the blood itself.

It is therefore of first-rate importance to ascertain the condition of the blood in the early stages of these fevers, as we may be quite assured that their fatality will be always proportionate to the extent or degree of the changes now alluded to.

For this purpose M. *Magendie* has for some time past been much in the habit of employing *saignées exploratives* or very small bleedings, with the view of determining the physical and chemical conditions of the blood, and more especially that of its coagulability. His prognosis of the case is greatly influenced by the results of such an examination.

The causes, which most frequently diminish the coagulability of the blood, are certain conditions of the atmosphere, aerial miasms, certain gases, unnutritious food, alkaline medicines, &c. A dissolved state of the blood is also usually met with in persons who die from lightning, and from the fumes of carbonic acid.

It is from the absorption of the deleterious miasms, which arise from the decay of animal and vegetable substances, into the circulation and from the consequent alteration of the blood, that we are to trace all those pestilential fevers endemic in hot climates, and in the close filthy localities of large towns. The black vomit of the West Indies is well known to proceed from an exudation of the altered blood from the capillaries of the stomach and duodenum. The bloody stools, the petechiæ on the skin, the ecchymosed spots on the lungs, &c. are all very striking proofs of the same morbid state.

We have said that, according to M. *Magendie*, alkaline medicines have a tendency to attenuate the blood, in consequence of their combining with its fibrine and rendering it less viscid.

Acids on the other hand—at least some, and among these the sulphuric is one—are found to increase the viscidity of the blood. Now it would seem—however strange and apparently inconsistent it may strike the mind at first—that similar morbid phenomena are induced by these opposite states of the circulating fluid. Both these states have a tendency to give rise to inflammations and congestive *engouements*. When the blood is too viscid, it cannot permeate the minute vessels: these become obstructed in consequence, and the usual train of symptoms of local inflammation ensue. On the other hand, when the blood is too much attenuated, it exudes from the capillaries; and thus engorgement and swelling are induced. M. *Magendie* alludes particularly to the tendency to pneumonic congestion, whenever this state of the blood is present: indeed, he carries the dogmata of the humoral pathology even farther than the disciples of Boerhaave and Van Swieten did.

We need scarcely inform our readers that we cannot assent to the opinions of M. *Magendie* on the subject of inflammation. With a few grains of truth there is a bushel of gratuitous assertions. That however he has succeeded in showing that not a few of the phenomena, which have been regarded by so many of his countrymen of late years as infallible signs of existing inflammatory action, are in truth indications of a dissolved and attenuated state of the blood, we are most ready to admit, and to give him praise and credit for.

Let not therefore the mind of the young practitioner be too much pre-occupied with notions of active or sthenic inflammation, whenever he finds, either during life or on dissection, the capillaries of certain parts engorged and distended. Such appearances are, as M. *Magendie* correctly states, often the effects of an attenuated condition of the blood.

If such then be the case, the inference is at once obvious that the detraction of blood and other depletory measures under such circumstances must necessarily aggravate the danger of the patient. No one can doubt that much mischief has been caused by the indiscriminate adoption of such a mode of treatment in all febrile disorders. We cannot enter upon this most important subject at present, and will therefore refer our readers to some valuable practical remarks by M. *Lombard* of Geneva, which will be found in the Foreign Periscope of our last number. We gladly however avail ourselves of the present opportunity of directing the attention of all to an admirable paper on the treatment of typhus fever by stimulants, which appeared from the pen of Dr. Stokes in a recent number of the Dublin Journal.

This accomplished physician has there pointed out with great judgment the aid, which may be derived from auscultation of the heart, in determining the line of practice to be adopted in certain malignant fevers. Whenever its impulse is weaker, and its sounds are fainter and less distinct than in health, we may with confidence, says he, administer stimulants, however much other symptoms may seem to contra-indicate their use.

Dr. *Stokes* strongly recommends that the action of the heart, much more than the state of the arterial pulse, should be carefully and regularly examined in the progress of fevers. The truth of the remark may be extended with great benefit to the therapeutic management of many other diseases. The information which we thus acquire of the energies of the system, is much more exact than can be obtained from the mere examination of the pulse. Dr. *Stokes* has adduced the reports of numerous cases, with the view of showing how the impulse and the sounds of the heart become gradually more and more healthy under the use of large doses of wine and brandy, and how he was thus enabled to guide his practice in cases, where the patient was laying comatose and oppressed with all the symptoms of malignant fever.

In not a few of the cases, upwards of a bottle and a half of wine was administered in the course of four and twenty hours.

ON THE DIAGNOSIS AND TREATMENT OF STOMACH DISORDERS.

The object of the subsequent remarks is to point out the variety of stomach ailments and diseases—very different from each other in their nature and each requiring very different modes of treatment—which have of late years, and more especially among my countrymen, been most erroneously blended together and arranged under the term *gastrite chronique.*

"Every one," says Professor *Debreyne,* "knows that the great multitude, or rather the apparent frequency of chronic gastritis arises, on the one hand, from the extravagant extension of the principles of the self-called *physiological medicine,* and on the other hand, from the prepossession in the minds of many practitioners in favour of the system of universal irritation, and therefore in favour of antiphlogistic remedies in treating them.

All pains and disorders are attributed by these men to chronic irritation or inflammation of the gastric mucous membrane. Whenever the tongue is somewhat redder than usual, and there is any uneasiness in the epigastric region, loss of appetite, and irregularity of bowels, recourse is had at once to leeches, gummy drinks, and a starving regimen.

...... A disciple of the *physiological,* or Broussaian, school sets himself to treat a case of chronic gastritis. He recommends—and very properly—the remedies just now mentioned. Next day the symptoms are relieved; but as there is still some tenderness in the epigastrium, the leeches are ordered to be repeated. Again relief is experienced. The epigastric pain however continues from day to day in spite of the vigorous depletory treatment. The patient too becomes gradually weaker and weaker; his pulse quickens, and a slow fever is lighted up in his system; while all the while the appetite is pretty good, or even craving. We need not pursue such a history, as we shall presently point out how such a case should be treated.

...... A second patient presents himself, labouring under atony of the stomach, which is usually characterised by derangement of the digestion, and uneasiness or even actual pain in the epigastric region.

Now this is often considered a case of chronic gastritis; and it is also treated with leeches, low diet, &c. The immediate result of this treatment is an increase of the general weakness. Perhaps however the epigastric uneasiness is relieved —a most deceptive sign of real amendment, and one likely to mislead the inexperienced practitioner. Probably the application of the leeches is repeated, under the mistaken idea that there is still some lurking inflammatory irritation.

...... Now let us take another case, that of a patient affected with a gastralgia, or gastrodynia. In such cases, along with the severe pain in the region of the stomach, there is usually loss or impairment of appetite, and other symptoms of a disordered digestion.

There can be no mistake here, it will be said by the *physiological physician* that a genuine gastritis exists. Numerous leeches are therefore applied, and a most strict *diete* is enjoined.

Now almost every pain—whether phlogistic, rheumatic, neuralgic, or even atonic—is relieved for a time by the application of leeches in the neighbourhood of the affected part. In neuralgic and atonic pains, the relief is however delusive and only temporary; for next day, or even sooner, they are as severe as ever. If this mode of treatment be therefore continued, the patient's strength is more and more exhausted, and the disease probably aggravated at the same time.

...... Then again consider the symptoms of a patient affected with scirrhus or incipient cancer of the stomach. He suffers from a sense of continual weight, and from a dull and deep-seated pain, especially when the stomach is empty, from most troublesome flatulence, acidity, frequent vomiting of a glairy matter, constipation, &c. The antiphlogistic treatment—under the impression that the case is one of chronic gastritis—is followed by nearly the same effects as, we have pointed out, are apt to follow in atony of the stomach.

..... Lastly, in cases of ordinary *embarras gastrique*—characterised by loss of appetite, a bitter taste in the mouth, a coated tongue, nausea, vomiting of bilious matters, sensibility of the epigastrium, headache, &c.—the physiological physician has often been sadly in error in supposing that the antiphlogistic treatment was at all necessary for its relief......

Dr. *Debreyne* then details with great minuteness the chief diagnostic symptoms of each separate case.

In treating of *genuine* chronic gastritis, he dwells particularly on the assistance which may be derived, in discriminating the disease, from watching the effects of different sorts of food upon the severity of the symptoms. 'Whenever,' says he, 'a farinaceous and milk diet is well borne, or at least is better borne, and causes less uneasiness than any form of animal food, even that of simple broth, we have strong reason to suspect the presence of some degree of inflammation. This symptom may be considered as a sort of touch-stone, by means of which we may in general distinguish the irritative from the purely nervous and atonic affections of the stomach. True, it is not an infallible indication; but it is certainly one of the greatest value to assist our correct diagnosis. Of this we may be assured, that whenever an animal diet suits a patient better than a vegetable one, the case is not one of gastritis.'

Now for a word or two respecting the treatment of *genuine* chronic gastritis.

As a matter of course, local detraction of blood, spare diet, refrigerants &c. are to be used. But if after a due employment of these means, the pain of the stomach still continues, we are not to persevere in the same practice indiscriminately. The pain may now be rather of a nervous than of an inflammatory character; and, if there be good reason to suspect this, a mild opiate in a mucilaginous vehicle will be far more serviceable than further bleedings.

Opium is however, on the whole, much less efficacious in gastritis than in enteritis or in dysentery. We should not persevere in its use, if the pain does not yield in the course of two or three days. Under such circumstances, let a blister be applied upon the epigastrium. Should the pain resist this as well as the opiates, we may then regard it as of an atonic character. Attention to the effects of food, animal and vegetable, will assist our diagnosis in this respect, as already explained.

Small doses of rhubarb or calumba, either alone or conjoined with sedatives, such as hydrocyanic acid, minute doses of morphia should now be tried. A low feverish state is apt to follow a too-long protracted use of depletory and debilitant remedies.

Atony of the Stomach.—This disease is of not unfrequent occurrence, especially in women affected with leucorrhœa, chlorosis, anæmia, &c.

It is unnecessary to particularise its symptoms, as all the phenomena well known under the too-comprehensive term 'dyspepsia' may be present. Even pain, aggravated too on pressure, in the epigastrium, is not uncommon. One important character is, that the distress of the stomach is usually increased by the use of vegetable and farinaceous food, and relieved, more or less, by a generous diet of animal meat, wine, &c.

Neither opiates nor antiphlogistics are suited to such a case: tonics alone are the proper remedies.

There may indeed be a certain degree of inflammatory or of neuralgic pain blended, so to speak, with the atonic pain, which is the prevailing element in the cases now under consideration; and then indeed it will be necessary to modify our treatment, combining the use of occasional leechings and anodynes with the tonic plan. An animal diet of the lighter and white meats at first and subsequently of the stronger ones, the use of some mild ferruginous preparation, of quinine, or some other vegetable bitter, such as gentian, calumba, aloes, &c. in the form either of infusion or of wine, constitute the most approved practice.

In a variety of gastro-atony—characterised by frequent returns of vomiting—there is no remedy more useful than calumba in the form of powder, five to ten grains taken three or four times a day. If the epigastric uneasiness should be troublesome, a mild opiate preparation may be mixed with it.

The patient should be advised to take but little of any watery drinks, such as tea, gruel, &c. Seltzer water is a good beverage.

Gastrodynia and Gastralgia.—The first of these terms should be applied to such pains in the stomach as are of a rheumatic, and the second to such as are of a purely neuralgic nature. The pain in both is almost always much more severe than in genuine chronic gastritis; and yet it is usually not increased, but is often relieved, by pressure on the epigastrium. Moreover, there is no feeling of heat, nor is there much thirst, and the pulse is not quickened. Generally there is but little derangement of the digestion; and almost all kinds of food may be taken, without any decided effects either as to encreasing or mitigating the pain. In genuine gastrodynia we can usually discover that there has been the retrocession or transport of a previous rheumatic affection of some of the joints, &c. Hence a certain degree of phlogistic action may be coexistent with the pain;—not so however with *gastralgia.*

As to the treatment, opiates are on the whole the most efficacious remedies. In many cases they require to be administered in large doses. Some of the diffusible antispasmodics, such as æther, camphor, the liquor Hoffmanni, &c. are often useful. The sub-nitrate of Bismuth is an admirable preparation in numerous cases. Sometimes, more especially where the disease is of a rheumatic character, the use of blisters, applied either to the epigastrium or to one of the lower limbs, is necessary.

We shall close these remarks with a few words as to the use of opium in painful affections of all sorts of the digestive canal. There is no remedy so generally beneficial, nay, even necessary, as opium in such affections; as, for example, in cramps, colicky pains, dysentery, as well as in gastralgia. In some cases, it must be associated with bloodletting; in others, with laxatives and emetics; and in a third set, with bitters and tonics. Medical men have been, especially during the last thirty years, far too timid in the employment of this admirable remedy in the treatment of disease. They forget that often, very often, Nature only requires to be freed from present pain, to enable her to restore a disordered function to a healthy condition, and a suffering organ to the regular performance of its duties without distress or inconvenience.—*Revue Medicale.*

M. RICORD ON THE TREATMENT OF THE VARIOUS STAGES OF SYPHILIS.

In the Foreign Periscope of the last number of this (the Medico-Chirurgical) Review, there is a brief paper on the views which M. *Ricord*, the experienced surgeon of the Hôpital des Veneriens at Paris, entertains on some of the most important topics connected with the history and treatment of syphilitic diseases. He has adopted a new arrangement of their phenomena, by dividing them into three, in place of two—as hitherto—groupes or classes; viz. the *primary*, the *secondary*, and the *tertiary*. The following observations are extracted from a paper which M. *Ricord* himself has recently published in the Bulletin de Therapeutique.

" One of the reasons, which has given rise to so much confusion and misunderstanding as to the proper nature of venereal diseases, is the vain attempt of seeking in one single and identical cause, to which they might all be referred, effects which are uniform and constant, and such as might be remediable by the same therapeutic means.

If it had been only once admitted that in many *reputed* venereal affections, there are some which are quite foreign to, and independent of, the primary and genuine disease, no difficulty would have been experienced in arriving at a more correct and more successful diagnosis and practice.

Besides this important consideration, there is another of equal importance, both in a diagnostic and in a therapeutic point of view; and it is this. Even in genuine syphilitic affections, the phenomena are by no means always the same. Much depends on the duration of the disease, on the tissues affected, on the constitution or idiosyncrasy of the patient, on the diseases which he has had before, &c. &c. Now all these varying conditions require corresponding modifications in the treatment.

By far the best arrangement of syphilitic affections is into *primary*, *secondary*, and *tertiary*. The *first* includes only those phenomena or symptoms which are produced by the direct local effect of the venereal poison. In the *second* stage or phasis, the morbid principle taken up by the absorbents becomes the cause of a general or constitutional poisoning, the effects of which are multiplied and various. These effects are twofold. In some *secondary* affections, the poison still retains its primary and peculiar characters, and is capable of communicating the disease by inoculation or by direct contact; while in others, this property of contagiousness no longer exists, but another characteristic property —that of communicability from parent to offspring—has been acquired.

In the *third* phasis or stage, the disease has lost alike its contagiousness and its communicability by descent: if it still retains a certain morbid influence on generation, this influence is manifested in the production of diseases, which are foreign to syphilis; for example, to scrofulous affections.

In a patient who has caught the primary disease, and in whom its characters have not been modified by any treatment whatever, the secondary phenomena usually shew themselves in from four to eight weeks. They may indeed appear earlier or somewhat later; but the usual period of their manifestation is as we have now stated. On the other hand, the tertiary phenomena very rarely develope themselves before the sixth month, and in most cases not till after one or even two years, posterior to the original infection.

It has been alleged that the phenomena, which we group under the class of tertiary, sometimes appear without having been preceded by those of the secondary stage. Such an occurrence does not tally with the results of our own experience. The secondary symptoms indeed are sometimes not well marked, and continue but for a short time; or perhaps in such cases they may have been arrested by a judicious regimen.

Let it not be supposed that there is any stated time that the primary, secondary, and tertiary phenomena of the syphilitic disease can be said to continue; for it is well known that the primary may last for even a twelve-month, and the secondary, under various modifications, for two or three years or even longer. All that we wish to inculcate is, that they invariably follow or succeed to each other in the manner that we have stated:—viz. that the primary symptoms invariably precede the secondary, and that the secondary invariably precede the tertiary. They are never observed to appear in an inverse series.

Now as to the seat of, or the tissues affected by, the syphilitic disease in its different stages: The *primary* disease attacks the skin, the mucous textures, the lymphatic vessels proceeding from these different tissues, and lastly the superficial absorbent glands.

The phenomena of the *secondary* stage are observed in the skin and in the mucous tissues both internal and external: of the former, the mucous lining of the throat and that of the extremity of the rectum are most frequently affected. In addition to these, the lymphatic system, the testicles, the iris, the hair and the nails, often suffer from secondary syphilitic disease. When these last-named parts become involved, the disease indeed is verging to the limits of the *tertiary* stage or phasis, during which the deep-seated parts, such as the sub-cutaneous and sub-mucous textures, the bones, ligaments, &c. are chiefly affected.

A fact worthy of notice is that, in the same manner as the primary phenomena may remain altogether local, so the secondary and the tertiary phenomena sometimes cease by becoming local also, and continue in this state, long after the system has been quite freed from the cause which gave rise to them. Of this nature are certain *inodular* indurations remaining in the seat of primary chancres; such also are a great number of excrescences or vegetations about the labia and penis, and various affections of the periosteum and even of the bones.

We shall now proceed to point out the practical value of the three-fold division of syphilitic phenomena which we have laid down, and endeavour to shew how attention to it will greatly influence the success of our treatment.

In the *primary* phenomena, which exhibit no indication of constitutional poisoning by any hardening of the tissues where the ulcers are seated, the employment of mercurial remedies is oftener pernicious than useful. As soon however as any induration around the primary sore takes place—an incontestible proof that absorption either has, or is about to take place—mercury, if it be not absolutely a specific, is at least the most efficacious of all remedies against the disease. It is equally useful in the greater number of cases of *secondary* syphilis, unless indeed the disease be complicated with certain morbid states of the system which contra-indicate its employment.

But very different are its effects in cases of genuine *tertiary* syphilitic disease.

For then it is usually not only not an efficacious remedy, but it is often such a pernicious poison that we cannot wonder that so many writers have not hesitated to ascribe to its use all the worst and most protracted features of constitutional syphilis.

Let it however be well remembered that if the tertiary symptoms are accompanied (as is not unfrequently the case) with any secondary symptoms, then indeed a cautious use of mercury will generally facilitate and expedite the cure. It is only when they (the tertiary) exist alone, that I condemn all preparations of this metal as useless, if not pernicious. The remedy, which I have found of the highest value in such cases, is the hydriodate of potass—a medicine which has been much vaunted, especially in England, as an anti-syphilitic remedy, but which has hitherto been far too indiscriminately used. The formula which M. *Ricord* recommends is a solution of ten grains of the salt in three ounces of water, and one ounce of syrup of poppies—a third part to be taken thrice daily in a decoction of sarsaparilla, hops, or saponaria. The dose should be increased by ten grains or so every five days, so that at length 100 grains are taken in the course of the twenty hours. Its use should be persevered in for a considerable time—say from six weeks to three months.

In some patients the hydriodate causes distress and even acute pain in the stomach; occasionally too vomiting, thirst, and diarrhœa. The appetite is usually increased : so likewise is the action of the kidneys, and hence occasionally a degree of diabetes is induced. The iodine may be discovered in the urine by the appropriate chemical tests. Some patients experience what has been called an *iodic intoxication*, characterised by an unsteadiness in the movements of the voluntary muscles, by slight startings and subsultus tendinum, by heaviness of the head, and a certain degree of confusion of the mental powers. Whenever such symptoms appear, the dose of the salt should be diminished, or its use suspended for a time.

The good effects of the hydriodate, when judiciously and discriminately administered, are usually obvious in the course of the third week or so: tubercles begin to shrink and be absorbed, ulcerations become cleaner and healthier, suppuration diminishes, pains in the bones are less severe, and swellings of the periosteum become less and less. The employment of local means, various according to the circumstances of each case, is not to be neglected at the same time. The application of a wash or gargle, containing iodine in solution, to ulcerations will be found of great benefit.* For pains in the bones, a succession of blisters on the affected part will give most relief. The same remedy will often be found to assist very materially in the dispersion of indolent subcutaneous tumors. In some cases, it seems decidedly useful to dress the blistered surface with mercurial ointment. When tubercular and periostitic swellings are unusually obstinate, the application of the tincture of iodine, pure or diluted with only one or two parts of water, so as to act as a mild caustic, is often beneficial.

I have already said that, if any secondary symptoms co-exist with the tertiary, it will be necessary, or at least useful, to combine the use of some mercurial preparation with that of the hydriodate. According to my experience, no preparation is preferable to the proto-ioduret of mercury, in doses of from one to five grains in the twenty-four hours.

According to the nature of the symptoms which first disappear, so should the continuance or the suspension of the particular remedy be regulated; but, as a general remark it may be stated, that it is well to continue the treatment for two, three, or four weeks after the apparent cure of the symptoms for which the remedy was given.

---

* M. *Ricord's* usual formula is one drachm of Tincture of Iodine (Pharm. Paris) to eight ounces of distilled water. This wash, when used as a gargle, causes a slight degree of a burning sensation in the mouth: the dose of the tincture requires, in some cases, to be raised to four or even six drachms.

M. *Ricord* closes his observations by alluding to his extended field of experience at the Hôpital des Veneriens, where he has tested on a large scale the value of the practice which he has now recommended.—*Bulletin General de Therapeutique.*

RHEUMATISM OF THE UTERUS.

In the last Number but one of the Medico-Chirurgical Review we called the attention of our readers to what the German and French physicians have denominated by the term, Rheumatism of the uterus,—remarking at the time that, as this organ is truly of a muscular structure, it is highly probable that it may be the seat of rheumatic disease.

The following cases, extracted from Rodamel's *Traité du Rhumatisme Chemique,* exhibit the sort of cases to which allusion is made.

Case 1.—A woman, who had for several years been subject to rheumatic attacks, experienced an attack last January in consequence of exposure to cold and wet. The inferior extremities were the parts chiefly affected. Suddenly the pain quitted the right leg, where it had been for several days extremely severe, and fixed itself in the region of the uterus.

There it was very acute and lancinating; abating at one moment and soon returning with great severity. The hypogastrium was tender on pressure, and the uterus felt, on examination, heavier than usual. By the use of remedies calculated to dislodge the rheumatism and to soothe the local irritation, the symptoms were speedily relieved; but no sooner was this relief experienced than the pain returned with force in the left knee.

Case 2.—A lady, after her second confinement, became affected with chronic rheumatism in the right thigh. The pain moved about to different parts of the body, and among the rest to the uterine region, giving rise to a sense of constant weight and dull pain there. After some time, it seized the stomach; then moved downwards to the left knee, and again returned to the uterus. The patient had become alarmed that a cancerous disease was beginning to establish itself; but her fears were quickly dissipated by being relieved from her suffering. For several years however she was subject to occasional returns of uterine distress, whenever there was a rheumatic diathesis, so to speak, present in her system.

Case 3.—A lady, 63 years of age, suffered in 1820 from flying rheumatism, which successively attacked the left hand, the legs, the right hand, and the legs again. During a subsequent year, the pain fixed itself in the loins, then between the shoulders; again in the loins, and at length in the region of the uterus, where it was of a sharp lancinating character. Every now and then the patient felt as if she had the forcing, bearing-down pains of labour. There was also some degree of tenesmus and of incontinence of urine. By employing means to recall the rheumatism to the lower extremities, all these unpleasant symptoms were speedily dissipated. This patient experienced subsequently several similar attacks.—*L'Experience.*

UTILITY OF CHLORURETTED INJECTIONS INTO LARGE ABSCESSES.

M. *Payan*, surgeon of the hospital at Aix, has reported several cases of the good effects of injecting the chloruret of soda—one part of Labarraque's liquid chloruret mixed with eighteen or twenty parts of tepid water—into the sacs of large abscesses, when their discharge has become acrid and unhealthy, and symptoms of constitutional irritation have come on. It is quite unnecessary to detail the particulars of these cases. Suffice it to say, that M. *Payan* is of opinion that the accession of hectic fever after the opening of large collections of purulent matter is attributable to the fermentation induced by the admission of atmospheric air, and to the consequent irritation of the lining membrane of the sac.

If this opinion be correct, the primary object is to prevent or to counteract the degeneration of the purulent matter; and according to our author's experience, no remedy is so effectual for this purpose as the chloruret of soda.—*Revue Medicale.*

POISONING FROM THE EXTRACT OF ACONITE.

The following observations merit the attention of every medical man in a practical point of view, as they shew the necessity of great caution in the administration of certain potent drugs, and more especially of artificial preparations of these, which may vary much in strength and activity. Here we have the account of the deaths of two persons, and of the serious illness of several others, in consequence of their having been taking an alcoholic extract of the Aconitum napellus, for the cure of rheumatic pains, of much stronger powers than that which had been previously administered, although the doses had not been increased in quantity.

Case 1.—A man, 45 years of age, had been afflicted with rheumatic pains for upwards of nine months, when he went on the 19th of December into the hospital at Bourdeaux. He was ordered to take two grains of the extract of aconite morning and evening; and under this treatment, the dose having been increased to ten grains daily, the patient nearly got quite rid of his sufferings. On the 12th of January, the patient took his accustomed quantity of the medicine, and within a quarter of an hour afterwards he experienced, as he had been accustomed to do, tremblings in the muscles of the thighs and arms; these, which were somewhat painful, instead of gradually ceasing in the course of a few minutes, became more and more violent, and were succeeded by genuine convulsive movements which lasted for a quarter of an hour or so. During these convulsions the patient lost all sense of consciousness; as they ceased, he answered questions distinctly, but his vision remained confused. He complained of a fixed burning headache, which he said felt as if a bar of hot iron was passed through his brain from one temple to another. He complained of extreme heat in his mouth and throat; and the stomach was so irritable that it almost immediately rejected any food or drink that was taken. The respiration was hurried and uneasy; the pulse slow, irregular, and weak, and the limbs were of an icy coldness. On applying the ear over the cardiac region, the movements and sounds of the heart were heard to be confused and disordered. The physician in attendance, justly regarding the alarming symptoms as all attributable to the narcotic effect of the poison on the nervous system, and more especially on the nerves of the respiratory and circulatory apparatus, as he had seen another patient under similar circumstances sink, on the preceding evening, under the gradual and progressive cessation of the breathing and pulse, immediately administered to the patient a strong infusion of *huaco*—a plant which seems to have a special stimulating effect on the heart—along with repeated doses of ammonia, the application of heat to the extremities, frictions along the spine and over the stomach with tincture of cantharides, &c. By a continuance of these means, the unpleasant symptoms gradually ceased, and the patient recovered not only from the immediate effects of the poisoning, but also from his former rheumatic sufferings.

On the same day, other three patients, to whom the fresh-prepared extract had been given, were similarly affected as in the preceding case. One, who had taken four grains in the morning, died at the end of three hours.

The following is the report of the other case which proved fatal.

A middle-aged man had been under treatment for some time with the extract of aconite for old rheumatic pains and had derived decided benefit, when one morning, almost immediately after taking his dose, which was from some fresh-prepared quantity of the extract, he was suddenly seized with a sense of burning in the throat, repeated vomitings, great anxiety, icy coldness of the limbs and body, syncope, and a sort of stoppage (arret) of the circulation: these symptoms proved fatal in the course of four hours. On dissection, the veins of the cerebral membranes were highly congested, and the substance of the brain, when divided, exhibited numerous points of dark-coloured blood. The lungs also were congested with black blood, and were much less crepitant under pressure than usual. The right cavities of the heart were filled with a thick blood, which had all the appearance of currant-jelly. The stomach was *zebré*, and exhibited on its surface numerous patches of a brown colour, especially towards its cardiac extremity. The liver and spleen were gorged with black blood.

Two other patients in the hospital were affected in a similar manner, but in a less severe degree, as the patient whose case we have briefly reported. By the use of strong coffee, and the application of outward warmth, the symptoms of poisoning gradually subsided and disappeared.

The facts now detailed sufficiently point out the necessity of the greatest caution in the administration of poisonous vegetable extracts from different parcels or quantities prepared at different times, and perhaps under different circumstances. The physician will act wisely to diminish the dose of such drugs, whenever a fresh parcel or quantity is used for the first time.—*Gazette Medicale.*

Clinical Review.

GUY'S HOSPITAL REPORTS. No. IX. OCTOBER, 1839. Edited by GEORGE BARLOW, M.A. &c. &c. and JAMES P. BABINGTON, M.A. &c. &c.

THE present Number is a worthy successor of those that have gone before—no mean praise, nor trifling recommendation. Sir Astley Cooper, as usual, is a contributor. The zealous Baronet is always on the alert to render his experience available to the purposes of science.

The contents of the Number are as follows:—

On the Dislocation of the Os Humeri upon the Dorsum Scapulæ, and upon Fractures near the Shoulder-Joint; by Sir Astley Cooper, Bart., F.R.S. D.C.L. (With Plates).—Case of Poisoning by Sulphuric Acid; by Alfred S. Taylor.—On Amputation; by Bransby B. Cooper, F.R.S.—Cases of Hernia; by Bransby B. Cooper, F.R.S. (With Plates).—Case of Empyema and Pneumo-Thorax; with Observations; by George H. Barlow, M.A. & L.M.—On the Physical Diagnosis of Incipient Phthisis; by H. M. Hughes, M.D.—Observations on the Pulse in Phthisis Pulmonalis; by William Augustus Guy, M.B.—On the Supposed Existence of Fluoric Acid as an Ingredient in certain Animal Matters; by G. O. Rees, M.D. F.G.S. &c.—Observations on the Incubated Egg; by Joseph Towne. (With Plates).—Report of Primary Syphilitic Cases; by Charles Aston Key.—On the Preservation of Subjects for Anatomical Purposes; by B. G. Babington, M.D., and G. O. Rees, M.D.

It would be inexcusable did we not pay our first respects to Sir Astley.

1. ON THE DISLOCATION OF THE OS HUMERI UPON THE DORSUM SCAPULÆ, AND UPON FRACTURES NEAR THE SHOULDER JOINT. By Sir ASTLEY COOPER, Bart. F.R.S. &c. &c.

When Sir Astley published the last edition of his Work on Dislocations and Fractures, he had not enjoyed an opportunity of examining the appearances on dissection of a dislocation on the dorsum of the scapula. Such an opportunity has now occurred, and Sir A. contributes the particulars which he has learnt to the profession.

Case. "I was sent for by Mr. Complin, a gentleman residing in Bishopsgate-street, in the city of London, to examine his left shoulder: and I found a very obvious luxation of the os humeri upon the dorsum scapulæ, as was evinced by the depression below the acromion, by the absence of the head of the bone from its natural situation, by a depression by which the fingers could be admitted into the glenoid cavity between the head of the os humeri and the coracoid process, but more especially by the projection of the head of the os humeri upon the back part of the glenoid cavity of the scapula, and upon its inferior costa, as well as by its filling the space between that costa and the spine of the scapula.

I advised an extension; but he had already suffered so much from attempts at reduction, that he was full of apprehension at the least motion of his shoulder, so that I no longer urged it, and he retained the appearances of the displacement to his death. Dr. Cobb had seen him. Mr. Key also had examined his shoulder with care; and his son, who is a surgeon in Charterhouse-square, has given me the particulars of the case, in a letter which I received from him:

'Mr. Complin was 52 years of age, and had been the subject of epileptic fits. One of these, which was particularly severe, occurred one morning whilst he was in bed, and in his violent convulsive strugglings his shoulder became dislocated. Mrs. Complin, who was with him, is confident that he neither fell from his bed nor struck his shoulder, during the fit: and that the appearances which I have described, and which remained until his death, were the result of muscular efforts alone, was the firm belief of Dr. Cobb, Mr. Key, and myself. Beside the unusual mode in which the accident happened, there were two other circumstances peculiar in the case. The one was, that the head of the bone could be, by extension, drawn into its natural situation in the glenoid cavity; but so soon as the force ceased to be applied, the head of the bone slipped again upon the dorsum scapulæ, and all the appearances of dislocation were renewed. The second peculiarity consisted in a sensation of crepitus as the bone escaped from its socket, so as to lead to a belief that the edge of the glenoid cavity had been broken off; and this symptom led to a belief that the bone so readily slipping from its situation, when restored to its natural cavity, arose from the imperfection of the articular surface of the glenoid cavity.'

The patient was unable to use, or even to move the arm to any extent; nor could he, by his own efforts, elevate it from his side: and although he lived seven years after the occurrence of the epileptic fit, he never recovered the use of the limb."

After his death, the scapula and os humeri were sent to Sir Astley, who found the state of the muscles and the situation of the bones to be the following:—

The head of the os humeri was placed behind the glenoid cavity of the scapula; and it rested upon the posterior edge of that articulatory surface, and upon the inferior costa of the scapula, where it joins the articulation. When the scapula was viewed anteriorly, the head of the os humeri was placed in a line behind the acromion, but below it; and a wide space intervened between the dislocated head of the bone and the coracoid process, in which the fingers sunk deeply towards the glenoid cavity of the scapula.

When viewed posteriorly, the head of the os humeri was found to occupy the space between the inferior costa and spine of the scapula, which is usually covered by the infra-spinatus and teres-minor muscles. The tendon of the subscapularis muscle and the interior portion of the capsular ligament had been torn at the insertion of that muscle; but the greater part of the posterior portion of the capsular ligament remained, and had been thrust back with the head of the bone, the back part of which it enveloped.

The supra-spinatus muscle was put upon the stretch; the subscapularis diminished by want of action; and the infra-spinatus and teres-minor muscles were shortened and relaxed, as the head of the bone carried their insertions backwards. The tendon of the long head of the biceps muscle was carried back with the head of the bone, and elongated; but it was not torn.

As to the changes in the bones, the head of the os humeri and the outer edge of the glenoid cavity of the scapula were in direct contact, the one bone rubbing upon the other when the head of the os humeri was moved; and this accounted for the sensation of crepitus at the early period of the dislocation, as there was no fracture. The glenoid cavity was slightly absorbed at its posterior edge, so as to form a cup, in which the head of the bone was received; and this latter bone, and the articular cartilage, had been in some degree absorbed where it was in direct contact with the scapula, as well as changed by attrition during the seven years the patient lived.

The surface of the original glenoid cavity, instead of being smooth and cartilaginous, was rough and irregular, having elevations at some parts, and depressions at others. The extremity of the acromion was sawn off, to look for any little fragment of bone which might have been broken off; but not the smallest fracture could be perceived.

"The dissection," continues Sir Astley, "of this dislocation explained well the whole of the circumstances.

In the usual dislocation backwards, or on the dorsum scapulæ, the bone, when reduced to its proper situation, remains there; and only requires a roller, and rest for a few hours, to prevent the future escape of the bone from the glenoid cavity; and the muscles, recovering their tone, fix it in its natural cavity. But in this case, as the tendon of the subscapularis and the capsular ligament had been torn from the smaller tubercle of the head of the os humeri, and the bone was consequently drawn back by the action of the infra-spinatus and teres-minor muscles, there was no support given to the head of the bone, when returned into its cavity; but so soon as it was replaced, it was drawn back by the action of the two posterior muscles, and all the appearances of dislocation reproduced.

The bandage required to keep the bone in its place should be placed on the fore-part of the chest, and behind the shoulders, to keep the head of the bone forwards; and a pad ought to be placed behind the head of the bone, to prevent it from slipping from its cavity: so that the bandage would be the reverse of the common stellate, which crosses upon the back; but this should be made to cross upon the anterior part of the chest: and to this bandage a sling must be added, to support the elbow, and to keep it back."

Sir Astley goes on to state, that, since he last wrote on dislocations of the shoulder, several cases of dislocation on the dorsum scapulæ have come to his knowledge. The accident usually happens by a violent push of some opposing body whilst the arm is advanced, and the head of the bone is thrown much further backward than in Mr. Complin's case; and probably the posterior portion of the capsular ligament is torn.

"In these cases, I have seen the common means of reduction employed, viz. fixing the scapula by a band, and drawing the arm outwards from the body; but the reduction was slowly performed, and was with difficulty effected. I was therefore pleased with the following case; in which the reduction was easily effected, after twenty-three days, without any forcible or complicated plan.

A gentleman who was staying in Essex got into a scuffle with a man; and pushing him violently from him, he dislocated the os humeri backwards. He consulted a surgeon in the place in which he was staying at the time of the accident; who advised his going to London, to consult an hospital surgeon. He followed this advice on the seventeenth day after the accident; and the surgeon, to whom he applied, tried to restore the bone to its place, but it resisted all his efforts. On the twenty-third day he applied to me; and the nature of the accident was sufficiently obvious, as the projection of the head of the bone could be readily felt; and when the elbow was rotated, the head of the os humeri could be perceived rolling upon the dorsum scapulæ. As he called upon me at my own house, I had no means of making the usual extension at the moment: but I placed the patient upon a chair; and bending his elbow at right angles, I raised his arm, and carried it behind his neck, so as to bring the hand across the back of the neck to the opposite shoulder; then forcing the elbow back, and pressing upon the head of the bone, I pushed it under the inferior costa of the scapula, and it instantly returned into the glenoid cavity. Mr. Bransby Cooper was present at the reduction of the dislocation.—Other means, however, will succeed."

A man came to the surgery of Guy's Hospital; and Mr. Tallent, dresser of Mr. Bransby Cooper, placed the patient upon a chair, put his knee in the axilla, whilst his fellow-students extended the arm from the wrist under his thigh, and the bone was reduced.—Mr. Dunn, surgeon in Blackfriars, also succeeded easily, by fixing the scapula, and extending from the wrist, in the usual manner of reducing a dislocation in the axilla.

In a case attended by Messrs. Whittaker and Key.

Case. A stout man fell down on his shoulder, and dislocated the head of the humerus on the dorsum scapulæ, where the head of the bone could be seen and felt. The elbow could be brought to the side, or raised on a level with the acromion. Rotation outwards was entirely impeded, in consequence of the subscapularis being stretched, all motion of the limb giving him extreme pain; which was referred to the lower part of the deltoid muscle, in the direction of the articular nerves, which were probably injured by the pressure of the head of the bone.

"At first, we placed our patient on a chair; and while Mr. Whittaker fixed the scapula, I carried the elbow upwards and backwards, in order to throw the head of the bone forwards into the glenoid cavity, but to no purpose. All that we gained by this measure was a slight advance of the bone, and reducing him to a state of syncope. In this state, we laid him upon his back; and fixing his scapula by the heel in the axilla, drew the arm downwards; and by extension, continued for a minute or two, succeeded in reducing it."

II. OF FRACTURES OF THE HEAD AND NECK OF THE OS HUMERI.

Sir Astley has arranged and communicates the results of his experience on these troublesome and frequently perplexing accidents. He has found them of various kinds:—

First—Dislocations of the os humeri into the axilla, with fracture, and detachment of the head of the bone, which is thrown on the inner side of the inferior costa of the scapula.

Secondly—Fractures through the neck of the bone, at the tubercles; in which the head of the humerus is broken off, but it remains in the glenoid cavity. This fracture occurs at the epiphysis, or anatomical neck of the bone.

Thirdly—A fracture below the articulation, between it and the insertions of the pectoralis-major, latissimus-dorsi, teres-major, coraco-brachialis, and deltoid muscles. This part has been called the surgical neck of the bone.

1. *Of Dislocation and Fracture.*

A person, says Sir Astley, falls, pitches with violence upon his shoulder, or a heavy-laden carriage passes over it: by the first impression of the accident, the os humeri is dislocated; and by a second, the neck of the bone is broken, and the head is detached, and lodges in the axilla.

The signs of this accident are, the usual symptoms of dislocation of the os humeri into the axilla, the head of the bone being there felt; but with somewhat less hollow below the acromion, and behind the deltoid muscle, because the broken extremity of the shaft of the bone quits the fractured head, and becomes situated in the glenoid cavity of the scapula. Upon rolling the arm, the broken shaft of the bone can be perceived to move under the acromion. There is little power of motion; and considerable pain, not only in the shoulder, but in the arm and hand.

The head of the os humeri can be felt in the axilla, when the arm is raised and the surgeon's fingers are thrust into the axilla: but when the arm is rolled at the elbow, the head of the bone remains entirely unmoved, or very little obedient to the motion of the elbow.

There is, in some cases, but not always, a distinct crepitus; but more frequently a gristly feeling, from friction of the broken neck of the bone against the glenoid cavity and its cartilaginous covering.

The broken end of the os humeri is drawn somewhat forwards; but is easily pushed into the glenoid cavity; from which, unless it be supported, it is again drawn by the pectoralis and coraco-brachialis muscles.

The arm, measured from the acromion to the elbow, is shorter than the other.

As great violence has occasioned this accident, the parts are much obscured, by the effusion of blood, and by the inflammation which speedily follows: but, for the first three hours, the muscles are so lax, that, but for the pain it occasions, considerable motion of the limb may be produced.

Sir Astley believes that he has seen many of these cases. He has had an opportunity of dissecting three.

In the *first,* (the patient died some time after the accident) the deltoid, teres-major, and coraco-brachialis did not appear altered. The supra-spinatus was somewhat wasted, as was the teres-minor; and their colour was fainter than natural. The infra-spinatus was put upon the stretch. The subscapularis passed over the head of the bone, and adhered to its cartilaginous surface.

The capsular ligament had been torn, under the subscapularis tendon; but every other part was entire.

The head of the os humeri had been broken off; and was found in the axilla, behind the coracoid process of the scapula, and it was strongly united to the inner side of the scapula.

The fractured neck of the shaft of the os humeri was seated in the glenoid cavity of the scapula, widely separated from the head of the bone; and the broken os humeri formed a new and good articulation with the glenoid cavity, with a capsular ligament over it, which was in part newly formed. A ligamentous matter passed from the broken end of the os humeri to the inner surface of the glenoid cavity of the scapula.

The edge of the glenoid cavity remained; but its surface was rather ligamentous, than smooth and cartilaginous.

The greater tubercle of the os humeri had become enlarged; the tendon of the biceps remained in the bicipital groove; and the tubercles were connected with the broken extremity of the shaft of the os humeri, and not with its head.

In the *second,* (the accident had also happened long previously), the head of the os humeri was dislocated into the axilla, and broken from the shaft; and it remained upon the inner side of the inferior costa of the scapula, to which it was firmly united.

The tubercles of the neck of the os humeri were broken off with the head of the bone; and the fractured extremity of the neck of the os humeri was placed in the glenoid cavity of the scapula.

The underhand motions of the shoulder were restored; but the elevation of the bone, beyond a right angle, was strongly resisted, and even with difficulty could be accomplished in the dead body.

In the *third* case, the head of the os humeri was broken off; and it rests in the axilla, upon the subscapularis muscle, and on the inner side of the inferior costa of the scapula.

The infra-spinatus and teres-minor muscles were much wasted, on account of the arm having its motions in a great degree destroyed.

The supra-spinatus and subscapularis muscles were less diminished; as what motion remained was performed principally by them.

The tendon of the biceps flexor cubiti had been torn, but its remains adhered to the bicipital groove.

The broken upper extremity of the os humeri was lodged in the glenoid cavity of the scapula, and had formed there a ligamentous joint.

The head of the humerus had a new capsular ligament, to which the axillary artery adhered.

The head of the bone was not joined to the scapula, as in the two former instances; but it was united, by a small process of bone, to the os humeri, at the part at which it had been broken off.

The head of the bone was placed on the sternal side of, and a little below the level of, the coracoid process of the scapula.

In enumerating the diagnostic signs which distinguish this from simple dislocation into the axilla, Sir Astley would observe that the fall and depression of the shoulder is less striking than in that accident, the shaft of the bone filling up the glenoid cavity.

That still the head of the os humeri can be distinctly felt in the axilla; and, that as it does not roll when the os humeri is rotated from the elbow, this becomes the principal diagnostic mark.

That a grating sensation can generally be felt, and sometimes a very distinct crepitus, especially if the elbow be raised outwards during the rotation of the arm,

That the upper broken extremity of the os humeri can be felt advancing to the coracoid process; but that it is easily returned into the glenoid cavity, and that it there rotates with the arm, but easily again slips forward.

That the accident which produces it is more violent than that by which simple dislocation in the axilla is produced; and there is, therefore, a greater appearance of contusion, more swelling, and more pain.

Speaking of the treatment, Sir Astley says:—extension is of no further use, than to bring the broken shaft of the os humeri into the glenoid cavity, where it forms an useful articulation; but no extension, however violent, disturbs the broken head of the bone, for no proper force could bring it into the glenoid cavity of the scapula. If reduction be ever effected, it will probably be by an extension with the heel or knee in the axilla.

To keep the broken end of the shaft of the bone in the glenoid cavity, a pad must be put in the axilla, to thrust it outwards: a clavicular bandage must be used, and the arm be supported in a sling.

But let the surgeon do what he will, the head of the bone will probably remain in the axilla, and the upper motions of the arm will be in a considerable degree lost.

And with that frankness which has ever distinguished him, Sir Astley adds:— "These cases should teach the members of our profession to be kind, generous, and liberal towards each other; and not to impute to ignorance or inattention that which is the result of a generally incurable accident. It too often happens, that, when every trial has been made to restore the parts, and without success, the patient goes to some other surgeon, to whom he shews his arm, and points out its uselessness and want of motion. A jealous and illiberal medical man might say, 'Yes, this is a dislocation which has not been reduced: I wish I had seen it at first; but now it is too late for a successful attempt to replace it.' However, every intelligent well-informed surgeon will *now* confess, that no knowledge, or exertion of skill, could have prevented the deformity and loss of the natural motion which results from this formidable accident."

2. *Of Fracture through the Tubercles.*

This fracture, Sir Astley tells us, happens at the junction of the head of the os humeri with the tubercles, at the part at which the capsular ligament is fixed, and where, in young people, the epiphysis is placed.

It is a very frequent occurrence in young people: it sometimes, though more rarely, happens in the old: in middle age it seldom occurs.

In children, it is the result of falls upon the shoulder; or it happens from a sudden or unexpected push of the arm, which it is unprepared to resist.

Sir Astley has seen it complicated with fracture of the clavicle. He gives as signs of the accident:—

The head of the bone remains in the glenoid cavity of the scapula; so that the shoulder is not sunken, as in dislocation.

When the shoulder is examined, a projection of bone is perceived upon the point of the coracoid process; and when the elbow is raised and brought forwards, this projection is rendered particularly conspicuous.

By drawing down the arm, the projection is removed; but it immediately re-appears upon giving up the extension, and the natural contour of the shoulder is lost.

The motion of the shoulder is painful; and the child cannot raise the arm but with his other hand: the elbow is with difficulty removed from the side; and the arm is obliged to be supported, either by the patient himself, or by aid of another.

Sir Astley has known the accident mistaken for dislocation. The point of the broken bone is felt at the coracoid process, and this is supposed to be the head of the os humeri; but, with care, the head of the bone can be felt still filling the glenoid cavity. When the elbow is rolled, the head of the bone does not obey its motion.

A slight extension draws the broken point of the bone into the natural position, beneath the head, from which it has been separated; but it always immediately re-appears, when the extension is lessened or removed.

Upon the dissection of these cases in the young, the head of the os humeri is found broken off at the tubercles, but it remains in the glenoid cavity.

A great quantity of ossific matter is thrown out from the periosteum and fractured neck of the shaft of the bone, but very little from the broken head. A cup of bone is formed upon the fractured neck of the shaft, in one of Sir Astley's preparations, which supports the head of the bone, so as to prevent the neck separating from it. A slight union is produced by the cancellated structure; the principal callus being formed on the outer surface, and it encases the bone.

Sir A. Cooper relates a case which occurred in the practice of a very able surgeon, Mr. Webster, of the Edgeware Road. The patient was 77 years of age, a period of life at which such an accident is necessarily rare.

The best mode, says Sir Astley, of treating these accidents consists, in the young, in applying a splint on the fore and back part of the arm, binding it on by a roller; placing a pad in the axilla, and using a clavicular bandage; supporting the hand, but not the elbow, in a sling; as, if the elbow be raised, the broken end of the bone projects forwards.

In old persons, the injury is more severe, and the force producing it is violent: it therefore becomes necessary to reduce inflammation, and to apply leeches and evaporating lotions; to observe perfect rest at first: and, after some time, the same treatment, as to bandages, may be pursued as in the young.

In both the old and the young, passive motion is to be employed so soon as the union is effected: which, in youth, is in a month; but it requires from two months to twenty weeks, in age.

3. *Of Fracture of the Humerus at its Surgical Neck.*

The bone is broken between the tubercles and the insertion of the pectoralis-major, coraco-brachialis, latissimus-dorsi, teres-major, and the deltoid muscles.

In this case there is great deformity of the bone: the head, neck, and tubercles remain in the glenoid cavity, with part of the shaft of the bone connected with them; but the broken end of the shaft is drawn forward and upward, under the pectoralis-major muscle.

When the elbow is thrust upwards, the broken extremity of the bone projects on the inner side of the coracoid process of the scapula; and it sinks when the support of the elbow is removed.

When the arm is rotated at the elbow, the broken end of the lower part of the bone is felt to roll.

There is no marked depression under the acromion; or but very little, if any; and then it happens from the deltoid muscle being dragged down.

The motion of the shoulder is extremely painful; and the patient has generally one or more fingers affected, sometimes contracted, at others painful only; and this depends upon one or other of the nerves of the axillary plexus being irritated by a part of the bone.

The elbow admits of being moved in all directions; for there is much less confinement of the arm at the shoulder than in the other accidents of that part; however, the movements are very painful.

The diagnostic signs of this accident are found in the head of the bone being in its cavity; in its being unaffected by the rotation of the elbow; in the point of the fractured neck being felt under the pectoral muscle; and in the surgeon being able to move the arm much more freely than in the other fractures of the neck of the bone.

Such is Sir Astley's account of this variety of accident. He relates a case which occurred to Mr. Blenkarn of Bermondsey, and which seems to have been managed with equal skill and success.

In the teatment, adds Sir Astley, the splints, the clavicular bandage, and the pad in the axilla, are required: but, above all, it is necessary to permit the arm to hang by the side, unsupported at the elbow; so as to let the weight of the arm be a constant source of extension upon the broken end of the bone. He subjoins:

"Mr. Tyrrell informs me, that in a case of fracture at the tubercles, he found that the bone best maintained its natural position by its being raised and supported at a right angle with the side, by a rectangular splint, a part of which rested against the side, whilst the arm reposed upon the other part; and until he made use of this plan, he could not succeed in removing the deformity, or in keeping the bone in its place.

Mr. Guthrie has given an interesting account of a curious case of fracture of the neck of the bone, in the Medico-Chirurgical Review, Vol. VIII. p. 289:—

A man fell from a ladder, and received a severe injury on his shoulder. Mr. Guthrie saw him about three hours after the accident; and the most remarkable and striking appearance was a fold or pucker of the skin, the size of half-a-crown, situated over the pectoral muscle. A hard substance could be felt below; and extending, above it, to the coracoid process. He says, 'I decided that it was a fracture, not a dislocation. The arm was moveable in every direction; and the elbow could be brought close to the side.' After the swelling had subsided, he says, 'I decided that the bone had been broken at its anatomical neck, and forced through the pectoral muscle.'

He found that he could bring the bone down to its natural situation, as to length; but it would not exactly remain in its proper place.

The man recovered, with a good use of his arm; so that the case terminated very favourably."

This paper of the worthy Baronet's deserves the attention of our readers.

III. ON THE PRESERVATION OF SUBJECTS FOR ANATOMICAL PURPOSES. By B. G. BABINGTON, M.D. AND G. O. REES, M.D.

It is but too notorious, that the Anatomical Bill has worked and been worked badly, and is, every year, working and being worked worse. If we go on, in an arithmetical ratio, as we have begun, the inspector will soon have his salary for nothing, for there are no dissections to inspect, and anatomical lectures will be limited to the description of the vital *principle*, in the absence of anything more tangible. Impressed with a laudable desire to make the most of the few bodies that the zeal and the exertions of the inspector can procure, Drs. Babington and Rees have tried many experiments on the best method of preventing putrefaction. We need say nothing of the methods that failed. But they bethought themselves at last of creasote and pyroxylic spirit. They first injected rabbits, with excellent success. Creasote was dear—pyroxylic spirit cheaper, and the pickling of the rabbits having answered so well, they determined to try what could be done with a human subject. We quote what follows:—

"On the 15th of May last, a convict at Woolwich, 23 years of age, died of inflammation of the bowels; and, on the 18th, his body was sent, by order of the Inspector of Anatomy, to Guy's Hospital, for dissection. It was neither œdematous, nor in a state of decomposition; and although the integument was somewhat fat, it was, upon the whole, in a fair condition for anatomical purposes. On the 21st, a gallon of pyroxylic spirit was injected into the aorta; and the body was placed in a water-tight shell, or trough, made of slate, and loosely covered with a wooden lid. This trough was deposited in a cellar, the stone floor of which was about two feet below the surface of the ground. On the 29th, the lid was removed, for the first time, and the body was found to be perfectly fresh. On this occasion, the flesh of the extremities was remarked to have become somewhat firmer than when the injection was first made. From the 29th of May to the 12th of June, the subject was examined, by removing the lid of the trough every two or three days; and no change was perceptible until the latter date. At that time, the only sign of alteration was the appearance of two or three brown streaks—evidently veins—on the inside of the thighs; and a separation of the cuticle of the hands from the true skin, which began to assume a greenish hue. Every other part of the body was perfectly preserved, and of natural colour. There was no putrid odour on opening the lid of the trough, but the characteristic smell of the pyroxylic spirit was in some measure passing off. An incision into the middle of the right thigh, such as would be made in operating for popliteal aneurism, shewed that the fat, muscles, blood-vessels and nerves were in a complete state of preservation. It should be observed, that ever since the injection of the subject the weather had been that of established summer; and that a second body, received from Woolwich, was so decomposed in three days after its arrival as to be totally unfit for dissection. On the last examination, as well as on two or three previous occasions, fluid was observed to occupy the bottom of the trough, and this it was thought adviseable to remove; it was likewise determined to throw another quart of pyroxylic spirit into the aorta.

On the 24th of June, the body was removed to the dissecting-room, and placed on the table, for the purpose of being thoroughly dissected. With the exception of a greenish appearance on the outer part of the left thigh, and the brown streaks already mentioned, it appeared, when brought into the light, perfectly preserved. The skin on the back of the hands, instead of putrifying. had dried, and become transparent; while the greenness of the left thigh proved on incision, to be quite superficial. The dissection was undertaken by eight gentlemen, and completed by the 13th of July; and it is testified by them all, that every anatomical purpose was as fully answered as if the subject had been quite recent. The various parts, on being laid open, were of natural colour and of firm texture. The tendons and ligaments were silvery and white, and the nerves had lost none of their tenacity. The pectoral muscles alone formed an exception to the natural colour which was elsewhere maintained: this appeared to be attributable to the macerating effects of a wetted cloth that had been laid upon the breast, to prevent evaporation through the aperture by which the injection had been accomplished. The parts which were exposed by dissection gradually dried; changing, in the course of a day or two, to a dark colour, and instead of putrifying, becoming hard. The brain, although it had retained its form, was soft, semi-putrid and unfit for demonstration: it must be borne in mind, however, that had the head been opened six days after death—at which period the subject was injected—this probably would have been the case. With the above exception, the viscera were all perfectly preserved: in proof of which, one of the kidneys, appearing, in colour and consistence, quite recent, was removed in the beginning of July, and, after maceration in warm water, in the usual manner, was injected with wax. This experiment was made in order to ascertain whether the spirit produced thickening, or any other alteration, in the inner coat of the blood-vessels; which was found not to be the case, as the wax had fully penetrated the tissues of the organ.

Of the gentlemen engaged in the dissection of this subject, one complained that he at first suffered headache from the odour which it exhaled; and some, who were not so engaged, considered this to be more disagreeable than that of putridity. The same opinion is sometimes expressed with respect to the odour of parts that have been macerated in spirit of wine. Some allowance in favour of the pyroxylic spirit should be made on the score of novelty; and since its vapour is not poisonous nor injurious, any more than that of spirit of wine, it is to be presumed that the student would soon become accustomed and reconciled to it. In a first trial, upon the human subject, of the antiseptic powers of this fluid, a natural desire existed, on our parts, of watching its progress, and of noting such changes as might gradually occur. This led to the necessity of opening frequently the lid of the trough: and it has already been remarked, that this by no means accurately fitted the trough itself. The pyroxylic spirit being of a very volatile nature, it is obvious that its preservative qualities were much diminished by this proceeding. It is, therefore, not too much to expect that in an air-tight vessel a subject thus prepared would not exhibit even those superficial changes which took place in this instance, and would be preserved for an indefinite period.

The advantages of employing pyroxylic spirit are, 1st, its extreme fluidity, in consequence of which it may be thrown into the minutest vessels. 2dly, its freedom from colour. 3dly, its cheapness; for a gallon is sufficient to inject a full-sized subject: and even with the present limited manufacture of it, it is only half the price of alcohol; while it possesses infinitely greater antiseptic powers, and is, in common with that fluid, miscible with water, in all proportions. 4thly, its innocuous nature, and its freedom from any corrosive action upon steel instruments. We are not aware that there is any material disadvantage in its employment: the odour, it must be admitted, is more or less disagreeable to different individuals, but not so much so, to the generality of persons, as that of the putridity which it serves to prevent. Of this fluid, which must not be confounded with pyro-ligneous acid, or with pyro-acetic spirit, a full account may be found in the 'Annals of Philosophy,' N.S. viii. 69. That which we employed was procured from Morson's, in Southampton Row; and it may be had from any operative chemist."

The plan must be tried extensively, and we hope that it will succeed so well as this account might lead us to anticipate. Much credit is due to the experimenters.

IV. APPEARANCES AFTER DEATH IN A CASE OF POISONING BY SULPHURIC ACID.

These are detailed by Mr. Alfred Taylor. The patient was 40 years of age —took about a wine-glassful of sulphuric acid—and died twenty-five hours afterwards.

Dissection.—This took place three days after death. The body was stout, and well-formed; free from marks of lividity or ecchymosis. Decomposition had already commenced about the head and abdomen. There were no traces of the action of the acid on the exterior of the face and neck. The membrane covering the tongue and palate was white, soft, and thickened: on removing this, the parts beneath were intensely reddened. The membrane lining the pharynx and œsophagus was corroded throughout its length. It was of an ash-grey colour, disposed to longitudinal rugæ, between which a brownish-coloured liquid was interposed. The membrane was not particularly softened: it resisted the pressure of the finger. The epiglottis, and the parts about the glottis, had become affected by the acid; but the larynx itself had escaped.

On opening the abdomen, the stomach was seen lying collapsed: externally, towards the cardia, it was a deep-red colour, intermixed with black striæ. There was no perforation of its coats, which were pretty firm. The small intestines, especially the duodenum, and upper part of the jejunum were inflamed. On laying open the stomach, it was found to contain no liquid, but a brownish-black pasty matter. This was washed off, and reserved for analysis. The mucous membrane was universally blackened; and raised into thick prominent cords or bands, which were disposed parallel to the greater curvature between the cardia and pylorus. Towards the pyloric extremity, the black discoloration, and, with it, the rugose condition of the mucous membrane, ceased. The coats of the organ were not perceptibly softened; and even the blackened parts resisted the pressure of the finger, having a hard corrugated feel. On stretching the stomach slightly, the black rugæ were found to be bordered, at the margin, with a deep crimson-red colour, from the inflamed mucous membrane beneath. This black discolouration was probably due, partly to the carbonizing action of the acid, and partly to its effect on the blood contained in the vessels of the mucous membrane.

The mucous membrane of the small intestines was inflamed, and the duodenum presented the same black discolouration as the stomach. The liver was of a deep livid colour, and congested. The lungs were of a dark grey, but not particularly full of blood. The heart and large vessels connected with it, were much distended with blood, mostly in a coagulated state. The lining membrane of the descending aorta was of a bright scarlet colour. The other organs presented no appearance requiring notice.

The contents of the stomach, with the organ itself, were digested in water; and a deep brownish-coloured liquid was obtained. When the insoluble matters had subsided, this liquid was filtered and tested. It was faintly acid. It gave a precipitate with nitric acid, probably albumen; but there was not the slightest indication of sulphuric acid, either free or combined, on applying the usual reagents. The poison had therefore become effectually removed by vomiting and purging; aided, perhaps, by the action of the magnesia, which had been freely exhibited.

V. DR. REES ON THE ABSENCE OF FLUORIDE OF CALCIUM, AS AN INGREDIENT IN ANIMAL STRUCTURES.

After noticing the positive announcement of Berzelius, that fluoric acid may be detected in human teeth, bones, and urine, Dr. Rees remarks:—

"The experiment which the Baron recommends, in order to obtain corrosion from bone-earth, is, to distil equal parts of strong sulphuric acid, and water upon it, until the measure of water is brought over. He states, that the distilled liquor, if evaporated in the glass receiver, will produce a corrosion.—I repeated this experiment, using 100 grains of bone-ash, and an ounce of the acid mixture; but could obtain no action on the receiver, by evaporating the distilled liquor; nor was there any corrosion or opacity produced on any part of the apparatus.

During the evaporation of the last portions of the liquor, dense white fumes appeared; and there was some difficulty in vapourizing the whole of it. On neutralizing a portion with ammonia, and testing it with nitrate of silver, a yellow precipitate of phosphate of silver was thrown down. A further examination shewed the presence of sulphuric acid, and traces of hydrochloric acid. I was much surprised to find phosphoric acid in this result of aqueous distillation, as the heat had not been urged during the process; for I had considered that acid as of too fixed a nature to volatilize with water at so low a temperature. It appeared to me now, that the presence of phosphoric acid, in this distilled liquor, might be a source of fallacy in the above experiment for establishing the presence of fluoric acid as a constituent of human bone; for it is a well-known fact, that phosphoric acid, if heated on glass of inferior quality till it volatilize, will act upon it with considerable energy; and all the animal substances in which fluorine has been said to exist, are particularly rich in phosphoric acid;—thus the ashes of ivory, of human bone, and the enamel of teeth, as also the precipitate obtained from urine by means of lime-water, are all of them composed, in very great part, of phosphate of lime. Mr. Richard Phillips has mentioned (in the Annals of Philosophy, Vol. V.), that when the water contained in uranite is driven off from the powdered mineral, a portion of the phosphoric acid is volatilized with it; the heat used being that of a common spirit lamp. This is the only fact with which I am acquainted (with the exception of my own observation), to shew that phosphoric acid will volatilize with water. The heat used in Mr. Phillips's experiment was, most probably, considerably higher than that which I applied. There seems no doubt that phosphoric acid is much more volatile than it has heretofore been supposed.

Having failed in detecting fluoric acid in human bones, I determined on testing for its presence in the enamel of teeth, in recent ivory, and in the precipitate obtained from urine by the addition of lime-water. Two different specimens of ivory (tusks of the elephant) gave no evidence of the presence of fluoric acid, when carefully tested, either before or after calcination; and I was equally unsuccessful with the enamel of human teeth, and the precipitate from the urine.

In these experiments, when I had failed in acting on the glass, I always found that the addition of 0.3 grains of fluoride of calcium to the experiment produced a strong and indelible mark on the surface of the glass test-plate. I mention 0.3 grains, because it will always be found sufficient to produce a most unequivocal corrosion: though I obtained satisfactory results by the addition of a much less quantity.—I have had only one opportunity of examining fossil ivory; and in that instance, I could not ascertain its locality: on submitting it, however, to the test used for recent ivory, bone, &c., I obtained immediate action on the glass.

In conclusion, I must express my firm conviction, that fluoride of calcium, as an ingredient in fossil ivory, must be regarded as an extraneous matter introduced by the partial mineralization of the animal substance;—that no such constituent exists in recent ivory, the enamel of teeth, human bone, or urine;—in fact, that fluoride of calcium should be expunged from the list of the constituents of animal substances."

VI. ON THE PHYSICAL DIAGNOSIS OF INCIPIENT PHTHISIS. By H. M. HUGHES, M.D.

Dr. Hughes admits the difficulty and insists on the advantage of physical diagnosis, or of correct diagnosis assisted by physical investigations, in the early stage of phthisis. He attempts to contribute to our means of attaining the precision we so much desire.

The local signs, he says, of tubercular irritation may, like those of advanced phthisis, be obtained by three modes of investigation—inspection, auscultation, and percussion. And he observes that it may be premised, that none of the physical signs of either the early or advanced stages of phthisis are pathognomonic; that their value depends almost entirely upon their existing primarily in certain parts of the lung, and progressively extending to the remainder of the organ; that the physical diagnosis of the disease, in fact, results from comparison of the phenomena observed in the examination of the different regions of the chest. The importance of this comparison arises from the well-ascertained and acknowledged facts, that phthisis almost uniformly commences in the superior part of the lung, and gradually proceeds downwards; and that the disease, in the great majority of cases, does not affect both lungs equally, but appears earlier, or advances more rapidly, on one side than the other. Hence it arises, that when tubercles are deposited throughout the entire extent of the organ, as in some very uncommon cases, the diagnosis derived from physical investigations entirely fails.

Inspection.—To practise this mode of examination, it is of course necessary that the upper part of the chest should be bare, and also that the patient should be quite at ease, should use no muscular exertion, and should, in whatever position, be perfectly straight. It is desirable also, that the patient should be placed opposite to the light; that he should recline, with his back supported in bed or a high-backed chair; that his head and shoulders should be thrown back. When thus situated, it is not very uncommon that, previously to any investigation, there may be observed, in persons naturally well formed, a difference in the contour of the two infra-clavicular regions; one being full and rounded, the other comparatively depressed and flat. The difference, it is true, is often very slight; but it should not, therefore, be disregarded: for though, when existing alone, it is of little value as an indication, it may be of importance, as a corroborative evidence, when viewed in connection with other signs of the disease. On now directing the individual to take a deep inspiration, there is frequently observed a very obvious variation in the amount of expansion of the two sides; one being elevated, as in health; the other being comparatively motionless. This difference of expansion may be sometimes better appreciated, and on all occasions may be confirmed, by the sense of touch. Thus, by placing the expanded hands at the same time on the corresponding sides, and again telling the patient to take a full inspiration, the unequal expansion frequently becomes increasingly evident.

This is very good advice, but Dr. Hughes must be aware, and indeed admits, that there is no novelty in it. Every good physician employs this means of diagnosis as a matter of course, and frequently derives great advantage from it. We confess ourselves sceptical of the sub-clavicular flattening as an *early sign* of phthisis. Dr. Hughes observes:—

"It may be necessary to mention, that an appearance of sinking may sometimes exist on one side, depending on partial emphysema and consequent increased roundness and fulness of the other. The diagnosis, however, will be evident on further investigation; as not only will the larger side be unnaturally resonant on percussion, compared with other parts of the chest, but will evidently expand less than the opposite side on deep inspiration.

On referring to Dr. Stokes's valuable publication on diseases of the chest, after this paper was nearly written, I was much gratified to find that he had observed the early and frequent flattening of the infra-clavicular regions in phthisis. For the purpose of accurately determining the difference of the two sides, he recommends admeasurement in the antero-posterior direction, by calipers. I have not adopted this mode of ascertaining the point under consideration; as I had not heard, and, I must confess, had not thought of the practice. But I may observe, in reference to admeasurement of the chest, that if alone trusted, or if regarded as superior in accuracy to the eye, it may often lead to error. I have seen this very strikingly exemplified in cases of empyema; in which, though the eye distinguished an evident bulging of one side, it was found, on accurate admeasurement, to be very little or not at all larger, and in one case even less than the healthy side. Dr. Williams has also, in his admirable little work, mentioned, though very briefly, the difference of expansion in the two sides of the chest at an early period of phthisis; and Andral has observed the occasional occurrence of flattening or depression."

Auscultation.—"The information," we cannot forbear quoting the entire passage, "derivable from this mode of investigation is often nearly equally decisive, and is generally attainable at an earlier period than that dependent on percussion. But the sources of this information are also more variable; and require more delicacy, and a nicer discrimination, than that resulting from the comparative dulness of the two sides. In some cases, the only appreciable difference from healthy respiration is a decrease in the vesicular murmur. As this, however, sometimes naturally exists of different intensity on the two sides of the same individual, it is available, as a diagnostic sign, only when it is very decided, and when it co-exists with others which are of a less questionable character. In other instances, combined with the decreased vesicular murmur, there is heard, in one of either the infra-clavicular, acromial, or scapular regions, a marked increase of the sound of expiration; which in the natural state is nearly inaudible; and which, though it may not be particulary striking when attention is directed only to one part of the chest, becomes sufficiently obvious when compared with that observed in healthy portions of the lungs. In other, perhaps more advanced cases, in addition to the deficiency of the pure vesicular murmur, and to the increase of the expiratory sound, there exists a hoarseness of the respiration,—a diminutive, if I may be allowed the expression, of bronchial respiration. Andral states, that an increase of the natural respiratory murmur —and Dr. Stokes, that puerile respiration—is sometimes observable in the very portion of the lung which is affected with incipient phthisis. This statement may be correct; and it would be far from becoming in me to doubt the accuracy of such justly celebrated observers. I may still be allowed to say, that after considerable attention to the local signs of phthisis and other diseases of the chest, I have never yet had reason to think that pure puerile respiration results as an immediately local effect of either bronchial irritation preceding the deposition of tubercles, or of tubercular consolidation itself. It may indeed be, that the hoarseness of the respiration, of which I am now speaking, is that to which these authors refer. The respiratory sound is indeed louder than in the natural state, and no rattle is combined with it; but it is not, as it appears to me, simply an increase of the pure vesicular murmur, but resembles, as I have already said, a diminutive of bronchial respiration; and is produced, I doubt not, by thickening, or compression of the minute bronchial tubes. As milliary granulations are generally preceded by, and rarely exist in considerable numbers, without some bronchitis, there is not unfrequently added to the signs already mentioned, and sometimes obscuring the more delicate among them, either a small thin mucous rattle, resulting from the admixture of air with the glairy fluid existing in the minute tubes, or a single clicking sound, arising apparently from portions of thick viscid mucus, presenting an obstacle to the passage of air through those of larger calibre. These are not sometimes heard, on a superficial examination; and become audible only at the termination of a deep inspiration, and when the superficial parts of the chest are made tense by drawing the shoulders forcibly backwards, if the examination is made at the anterior, and by crossing the arms and inclining the body forwards when it is made at the posterior part. Two other signs afforded by auscultation may be mentioned; though I believe they are usually not so early in their appearance as those already referred to: they are, a trembling vibration of the voice, or a slight modified bronchophony, and an increased distinctness of the sounds of the heart observable over the affected portion of the lung; when the heart itself, and the great vessels connected with it, are ascertained, by previous or subsequent examination, to be in a healthy condition.

The whole of the preceding auscultatory signs—with the exception of the two last, which result from a partial consolidation of the lung—appear to depend upon thickening, or compression of the smaller bronchial tubes, or upon a secretion from their lining membrane; and may therefore all exist in simple bronchitis. From it, however, incipient phthisis may generally be distinguished, by the signs being confined to a small portion of the lung, which, in a vast majority of cases, and, in the simple forms of the disease, perhaps nearly universally, is the apex of the organ,—while bronchitis almost as commonly affects the entire surface of the bronchial membrane; by the continuance of the local signs of the former complaint, without important change; and by the general history and character of the disease. That the physical diagnosis cannot be always satisfactorily established, has been already acknowledged at the commencement of this paper."

It will be observed that the information given to us by Dr. Hughes coincides pretty nearly with what we have generally counted on—that the respiratory sound is often slightly increased and modified in the earlier stage of phthisis. It matters little what precise term is given to the alteration—*that* is too vague to allow any term to fit it without risk of misconception—and the result of our experience is, that the sign itself must be received with caution, and not depended on over much. Auscultators too frequently make sad blunders.

Percussion.—" The sign afforded by this mode of investigation, though late in its appearance, is perhaps more valuable than most of those that had been before mentioned as an indication of the *presence* of tubercles. Like them, however, dulness on percussion derives its importance, as a diagnostic, entirely from the part of the chest in which it is discovered. Thus, the same amount of dulness in the base and apex of the lung would be very differently regarded by the experienced auscultator. The one might be thought to result from pleuritis or pneumonia; the other, particularly if confined to one side, would be considered indicative of phthisis. I have almost always found that mediate is preferable to immediate percussion, and that the very best plessimeter is one or more fingers of the left hand. I have also found that minute differences of sound are best elicited by gentle percussion; and that they are more clearly distinguished immediately below the clavicles, than, as is recommended by many authors, by tapping the clavicles themselves. It is desirable, though I do not recollect to have ever met with or heard the observation, that the examination by percussion should be made during forced inspiration, and forced expiration, as well as during the ordinary degree of expansion of the chest; as, by these means, consolidation, even when separated from the surface by an intervening portion of healthy lung, may be sometimes discovered. When percussion has been performed on one side, the resulting sound should be immediately compared with that elicited by the same means from an exactly corresponding situation on the opposite side, and the strokes alternately repeated in quick succession. By adopting this procedure, slight differences of sound may be often made sufficiently obvious, which would otherwise have escaped detection. If both infra-clavicular regions sound well, and equally well, it is desirable to make a similar examination of the superior parts of the mammary regions; as it sometimes, though unfrequently, happens, that tubercular deposit first occurs in the latter. It is also desirable to examine by percussion the acromial and scapular regions; though I believe that the sounds afforded by them are not, in the healthy condition, sufficiently clear to indicate slight alterations of structure in the pulmonary tissue. If both infra-clavicular regions are equally though not sufficiently resonant, the sound should be immediately compared with that afforded by percussion of other regions, particularly the mammary, the axillary, and the lateral."

All this is judicious—*is* usually practised by careful and by well-informed men—*ought* to be practised by all.

Dr. Hughes adds :—

" If then, in a person labouring under bronchial irritation, with either a scrofulous constitution, or an hereditary predisposition to phthisis, there be observed a flattening or deficient expansion of one of the infra-clavicular regions,—if there exist permanent feebleness or hoarseness of the respiration, or an increase of the respiratory sound,—if a slight muco-crepitating, or small mucous rattle be discovered in the infra-clavicular, acromial, or scapular regions of one side (or indeed of both sides, when they do not exist in other parts of the lung), even though there should be no dulness on percussion,—the commencement of phthisis may, I feel assured, be predicted with considerable confidence. It is not probable, and indeed is scarcely possible, that all these signs should be present in the same individual at the same time; though many may co-exist, and all may successively appear. The greater their number, and the more obviously marked their character, the less hesitation will there be in pronouncing an opinion upon their cause. Dulness or difference of sound, on percussion, if it should not be already distinguishable, will probably too soon make its appearance, unless prevented by appropriate remedial measures; and high probability will then be converted to almost a certainty."

We have given these remarks, because they embody all that can be said upon a very interesting subject. We cannot flatter our author by professing that we discover any novelty in his mode of looking at it, or any suggestions which wander from the track of the experience of the best informed physicians. But, in our science, it is very useful to dish up a rechauffé of things which ought to be remembered, and are frequently forgot. And he who cooks the hash, or he who serves it may receive some thanks—as comfort for Dr. Hughes and for ourselves.

VII. DR. GUY ON THE PULSE IN PHTHISIS PULMONALIS.

Dr. Guy, as our readers well know, has already given us some interesting observations on the pulse; he has followed them up in the case of phthisis, and communicates them to the profession in the present number of the Reports. We extract his summary :—

" 1. In cases of phthisis pulmonalis, the frequency of the pulse varies within wide limits; the difference between the extremes amounting to 90 beats.

2. In the same individual, the frequency of the pulse undergoes remarkable fluctuations; passing, in a few days, through a range of upwards of 60 beats.

3. In five out of six cases, the frequency of the pulse in phthisis exceeds the highest frequency observed in health.

4. The difference between standing and sitting in phthisis is nearly the same for all frequencies of the pulse.

5. The maximum difference between standing and sitting, in all cases of phthisis pulmonalis, falls short of the mean difference in health.

6. From the average results of a considerable number of cases, it appears that the mean difference in health is six times as great as the mean, and three times as great as the maximum, difference in phthisis.

7. On the supposition that the slight effect produced by change of posture is peculiar to phthisis pulmonalis, it forms one of the most constant and certain of its symptoms.

8. On the supposition that the slight effect produced by change of posture is common to more than one disease characterized by increased frequency of pulse, it will distinguish these diseases from others with which they may be confounded; and these diseases themselves are easily distinguished from phthisis pulmonalis, either by the peculiar character of the pulse, or by other physical signs.

VIII. MR. BRANSBY COOPER ON AMPUTATION, &c.

Mr. Cooper has made some very interesting observations upon amputation. We extract the following:—

1. " Amputation may certainly be looked upon as one of the most formidable operations in surgery, not merely from its being attended with great suffering and danger to the patient, but also leaving him the subject of mutilation for the remainder of his life. I have been lately informed, that, in Paris, not more than three or four patients out of a hundred live after the operation of amputation: this, however, certainly, does not depend upon any want of skill in its performance by the French surgeons, but from their mode of after-treatment, and principally from their use of charpie, preventing the union by adhesion; leaving the healing of the stump to the granulating process, which is not only infinitely more tedious, but likewise calls much more upon the powers of the constitution.

The diet of the hospitals in Paris is not, as in our public institutions, under the regulation of the surgeons, but of the Government; and the use of stimulants and generous diet is pertinaciously forbidden, excepting in very urgent cases, when, perhaps, a little *vin ordinaire* may be allowed,—a beverage quite insufficient to maintain the powers of a patient under the protracted cure of a large wound by granulation.

To these causes, I believe, is to be attributed the want of success in the result of surgical operations in Paris; as, in dexterity of manipulation, and boldness in its application, the French surgeons are not to be surpassed."

2. " About six years ago, a patient was admitted, under my care, into Guy's Hospital, with a fracture of the lower third of the thigh-bone, from the kick of a horse. The fracture was oblique, and extended to within three inches of the knee-joint. The limb was placed upon a double-inclined plane, and a splint applied to either side of the thigh. On the fourth day after the accident, I discovered, for the first time, a diffused swelling in the ham, extending above the internal condyle, the swelling communicating a distinct pulsation. As the leg and foot retained their natural heat, and indistinct pulsation could be felt along the course of the posterior tibial artery, I considered there were yet hopes of saving the limb, by putting a ligature around the femoral artery; which I performed without removing the patient from his bed; thus saving him the pain and consequent ill effects of being carried to the operating theatre; and had the happiness, not only of saving his life and limb, but of restoring the extremity to its natural function."

3. " From the result of my experience, I consider it as a most unfavourable case where muscle or fascia prevents the adaptation of the fractured ends of a bone; and have generally found such cases terminate unsuccessfully. When want of union arises from constitutional causes, it is often very difficult to ascertain the nature of the defect: for I have, on several occasions, witnessed a great difficulty in producing the union of a fractured bone, in those who seem to be performing every function naturally, and in whom there was not a single symptom indicating the preference of one remedy beyond another. In such cases, I have, in three or four instances, found the administration of mercury, to an extent to produce ptyalism, of the greatest benefit: and have succeeded in producing consolidation, after seton, pressure, and other violent means, had failed. The efficacy of this practice is well worthy of further investigation; as a permanent disunion of the bones of a lower extremity must lead to the necessity of amputation; and if of an upper extremity, it would at any rate render the limb useless for the remainder of life."

4. " A young man, aged 18, four or five days prior to his admission, had, while bathing, trodden upon a nail, which had penetrated deeply into the sole of

the foot. The puncture at the time produced but little pain; so little, indeed, that he continued in the water for some time after, and walked home, unmindful of the injury he had sustained: in a few days, however, the foot became painful and inflamed, and he thought he experienced some little difficulty in the movements of his jaw. Becoming alarmed at these symptoms, he applied at Guy's Hospital for relief; and on my attention being drawn to him, the symptoms of lock-jaw were evident. Purgative enemata were ordered; a grain of opium, and two grains of calomel, every three hours; and blisters to be applied, in the course of the spine. On the next morning, the report was, that all his symptoms were much relieved: the motion of his jaw was freer; he could swallow with less difficulty; and the injections had produced free evacuations from his bowels. Gratified with the evident mitigation of his sufferings, I too hastily formed a favourable prognosis; for, on desiring the patient to turn round in his bed, that I might examine the effect of the blister, he was seized with convulsion, and died instantly."

IX. CASES OF HERNIA. By BRANSBY B. COOPER, F.R.S.

The following Cases possess some features of interest for every practical surgeon.

Case 1. On the 26th April, 1839, Mr. Frederick Toulmin was called to Mr. J. aged 68, who was suffering much pain in his bowels and at the pit of his stomach, attended with frequent vomiting; but represented, at the same time, that the bowels had been twice moved during the day. Mr. Toulmin, however, being aware that his patient was the subject of rupture, inquired whether it was up; and, upon being informed that "all was right," considered the symptoms arose from an attack of indigestion. Next morning Mr. J. passed a well-formed motion, but still had some vomiting and pain. In the evening the urgent symptoms had returned. Mr. Toulmin now made a close examination:—

The right inguinal region, the side on which Mr. J——— had been for many years the subject of hernia and had worn a truss, presented the appearance of an unnatural degree of flatness, particularly obvious when compared with the opposite side; but which seemed attributable to the absorption of fat, from the continued application of the truss. The fulness on the left side, however, was found not to depend wholly on the accumulation of fat, as a small hernia could be felt protruding through the external abdominal ring, but which immediately returned under the act of its examination: there was still, however, to be distinctly perceived a greater fulness on the left than on the right side. Under these circumstances, Mr. Toulmin ordered a pill, composed of calomel and rhubarb, to be taken immediately, and to be followed by a purgative draught in a state of effervescence; and a sinapism to be applied to the region of the stomach. On the 28th, the patient was much the same. On the 29th, the vomiting had become stercoraceous. On that afternoon, Mr. Cooper was called in.

" I first carefully examined the condition of both inguinal regions; having been informed that the patient had been the subject of double rupture; for many years on the right side, and for some months on the left. On taking a general view of the two sides, to ascertain the defect of symmetry, it was at once evident that the left was the larger of the two; not, however, presenting the appearance of a circumscribed tumor-like hernia, but more as if the prominence was the result of a natural deposition of fat, which had been absorbed on the right side from the pressure of the truss, and had thus led to the inequality of size. Upon manipulation, however, there was a somewhat unnatural sensation communicated, as well as a fulness in the left inguinal canal.

I then proceeded to examine the right side, and no protrusion whatever could be felt in the canal; but, upon desiring the patient to cough, the slightest exertion of the abdominal muscles immediately produced the descent of a hernia, but which was very easily returned into the cavity of the abdomen by the most gentle pressure. The fore-finger was then passed into the inguinal canal, by pushing the loose skin through the external ring; and then desiring the patient to cough, there was complete evidence of the absence of any descent through the internal ring; and therefore nothing here could be discovered to lead to suspicion.

Our consideration, therefore, was again directed to the left side, as being the probable seat of mischief; and its deviation from the natural appearance, slight as it was, could not but create suspicion, when taken in conjunction with the concomitant symptoms. We then agreed upon the propriety of exploring its condition. An operation was proposed to the patient, and acceded to: it consisted merely of laying open the left inguinal canal; in which was found a small empty sac, but not any thing which could in any way account for the symptoms; and we remained, therefore, in the same state of uncertainty as to the cause of the disease. The wound was dressed, and our patient was placed in bed. Some purgative medicine was considered advisable, and was ordered."

There was no material relief of the nausea, the constipation continued, and at 10 a.m. of the 30th, the patient died.

Dissection.—We first proceeded to explore the part subjected to operation; and found that the inguinal canal had been exposed; in which was seen the hernial sac, now containing a small portion of healthy omentum, which had descended probably since death. The sac was laid open, and its contents were most readily returned into the abdomen, not being subjected to the least constriction;—proving the correctness of the opinion formed during the exploration of the previous day, that on the left side there was no existing cause for the symptoms which had proved destructive to life. We then proceeded in our examination, by turning down the anterior parietes of the abdomen, for the purpose of carefully investigating the precise position of the intestines. Upon effecting this, there appeared, in the general view, nothing abnormal, either in their situation or degree of vascularity—not even at the left internal ring opposite to the seat of operation; although the portion of omentum which had descended into the hernial sac was lying close to the opening, but was distinguishable merely from the form which it had acquired from its frequent descent into the inguinal canal. There were, in this situation, however, no adhesions, no inflammation, nor any appearances to which could be attributed the functional disturbance. On examining the condition of the right inguinal region, the seat of the old reducible hernia, we found a portion of intestine in the sac, which proved as easily reducible as it had been during life; but on drawing the intestine out of the situation of the internal ring, it resisted displacement, as if some adhesions had retained it there. On examining the cause of this retention, it was found that a portion of intestine had become strangulated in a small hernial sac which was situated anteriorly to the larger one containing the reducible hernia. This portion of intestine, and its sac which strangulated it, were situated within the cavity of the abdomen; and could not have been relieved, even if the exploration had been performed on the right side; unless, indeed, the dissection had been performed on the hernial tumor while protruding into the scrotum; for which there could be no apparent reason, as the part was so easily reduced by the taxis. It is, however, to be admitted, that had the hernia been cut down upon, within the scrotum, without attempting its reduction, the anterior sac, with its strangulated intestine, would have been brought into view, and capable of being relieved, instead of being returned by the taxis into the abdomen in a state of constriction. But, as the fact of this second hernial protrusion could not be ascertained during life, no one, I consider, would have been warranted in such a proceeding: for if so, the taxis must at all times be considered as an improper practice, and every obstructed hernia must be subjected to operation.

It may however be learned, from this case, that when, after the reduction of a hernia by taxis, the symptoms of strangulation remain unabated, the tumor should, if possible, be made again to protrude, and then be submitted to operation; as it is evident its reduction has not relieved the constriction of the implicated viscus. This case is also highly important, as marking the necessity of a very close examination of the condition of a hernia, after the stricture has been divided external to the sac, before the contents of the sac be returned without the peritoneal covering being opened; for in such a case of complication as has been described, it is very possible that the contents of the larger hernial sac might be pushed into the abdomen, and the smaller sac with its strangulated intestine with it, if the neck of the sac were not opened for the division of the stricture.

Case 2.—I. A., aged 67, was admitted Nov. 18, 1834, with a strangulated oblique inguinal hernia on the right side. He said he had been the subject of hernia for thirty years; but never before experienced any difficulty in its reduction. On Monday morning, while at stool, his rupture descended, and he immediately became sick; when, upon being unable to push his rupture up, he became alarmed, and applied for admission into the hospital. He was then suffering from continual sickness; pulse soft and compressible; tongue dry and furred; skin cool, but clammy; countenance rather anxious. The hernia descended into the scrotum; but was not tender, even upon pressure. He walked to his bed with apparent ease: the reduction of the hernia being then attempted unsuccessfully, he was ordered into a warm-bath; and being subjected to its influence for half an hour, he became faint, and in so favourable a condition, that a further application of the taxis proved apparently effectual, for the hernia was returned into the cavity of the abdomen. On his return to his bed, he expressed himself relieved; and was anxious to have his truss applied, which was immediately done. A common enema was then administered; but it returned immediately, without producing any alvine evacuation. The urgent symptoms, however, soon returned; his pulse became quicker; he passed a most restless night, with occasional vomiting; and the constipation of the bowels remaind.

On the 19th, the obstruction was the same, and the matter vomited feculent. Mr. Cooper could discover no hernial protrusion. Mr. C. therefore ordered an injection to be given, by passing an elastic tube into the sigmoid flexion of the colon; hoping to be enabled to remove some hardened fæces, which might prove the cause of obstruction. Considerable difficulty, however, was experienced in the introduction of the instrument, and the injection was merely thrown into the rectum in the usual manner.

Next morning, an enema was again attempted to be thrown up; but he complained of so great a pain from the introduction of the instrument, that the operation was not satisfactorily completed; although two syringes' full of salts and senna were injected, but returned almost immediately. From this period he became much worse; his pulse and countenance sunk; and at half-past six he died.

Dissection.—Peritoneum generally inflamed. The two upper thirds of the small intestines were greatly distended, of a dull reddish hue, and covered with diffused arborescent capillaries: in the lower third, a knuckle of intestine, to the extent of about two inches, was found strangulated in a distinct sac, lying between the right linea ilio pectinea and the bladder, being placed in the natural pouch of peritoneum leading to the internal abdominal ring, and which usually forms the sac of an inguinal hernia. The bladder contained about five ounces of urine, and was peculiarly elongated upwards. The sac, as seen within the abdomen, seemed about as large in size as a large walnut: its aperture, which formed the stricture, was of considerable size, although the stricture around the intestine was pretty firm. The sac itself was not much discoloured, but the intestine contained within it was of a dark greenish hue. There was no-where any appearance of recent adhesions, or other solid effusions. The pelvis contained about two ounces of dull yellowish-red serum, of offensive odour. A firm and reddish margin of omentum adhered to the front of the sac very firmly, and some bridles of adhesive matter confined the cæcum in the iliac fossa. About three inches of the ileum, below the stricture, shewed evidence of former constriction; the middle part of this portion being slightly dilated, thickened, opaque, and injected; whilst the two extremities were marked by an irregular patch or flake, as if cicatrisation had been the result of some former physical compression. A preparation was made of the parts, and are preserved in the Museum of Guy's Hospital. The other abdominal viscera were sound; excepting the rectum, which, at the part corresponding to the promontory of the sacrum, presented a perforation surrounded by a dark ecchymosed spot, which had been evidently produced by the attempts to pass the elastic tube into the colon.

Mr. Cooper adds:—

"This case well exemplifies, that the return of a hernia into the cavity of the abdomen, by the application of the taxis, does not necessarily lead to the cessation of strangulation; and that all the symptoms of intestinal obstruction may remain, although there is no longer any abdominal protrusion. Such a condition offers great difficulty in the adoption of the treatment which is to be employed: the administration of purgatives cannot avail, as they tend only to increase the sickness, without offering any hope that they should overcome the mechanical obstruction. Enemata are perhaps indicated, as they may remove accumulated, hardened fæces, which might, indeed, be the sole cause of obstruction, and the hernia prove to be merely a coincidence: a suspicion of this fact possibly would arise, if the injections brought away a great quantity of scybalæ; after which purgatives might be safely used: but if these means prove ineffectual there is, I believe, nothing left to be done, but to have recourse to a surgical operation, which I should, under these circumstances, now never hesitate to recommend. The plan which I should adopt would be, first, to do all in my power to promote a return of the hernia; which, under the circumstances I have detailed, I think may very frequently be effected, as the effectual application of the taxis had already proved that the sac had formed no adhesions; and as soon as the swelling was reproduced, the sac should be cut down upon, and treated as in the operation for hernia generally: invariably however, in such cases, opening the hernial sac. But if, on the other hand, the hernia cannot be reproduced, then I consider the outlet of the abdomen, through which the protrusion had occurred, should be laid bare, and dilated, so as to facilitate the descent; or even, if necessary, so as to expose the hernial sac, and to enable you to divide the stricture. This operation, although dangerous and difficult, offers quite sufficient hope for success to render its adoption advisable; and is far better than to leave a patient to inevitable dissolution, if the obstruction be allowed to continue. Indeed, I will say, further, that the frequent attempts at reduction by the taxis, and the delay consequent upon these trials, are far more dangerous than the dexterous performance of the operation which I propose. It is, in fact, already granted, by all surgeons, that a patient with symptoms of strangulated hernia, and any concomitant abnormal enlargement about the abdomen, is a fit subject for operation. The exploration proposed, therefore, goes but one step further—to seek for the part, which, although returned within the abdomen, proves itself, in its present condition, incapable of performing its natural function."

NEW YORK HOSPITAL.

REPORT OF CASES OF UNUNITED FRACTURE TREATED AT THE HOSPITAL. By JOHN S. HEARD, M.D. late House-Surgeon.

Passing over an enumeration of the various modes of treating ununited fracture that have been resorted to, Dr. Heard describes the following, and pins to it some remarks which we shall quote.

Removing the extremities and connecting the fragments by silver wire.—All these different methods having occasionally failed in effecting bony union,—*it occurred to Dr. J. Kearny Rodgers, one of the surgeons of the New York Hospital, that if, after removing the extremities of the fragments and exciting their periosteum, he could keep them in apposition for a certain period,—firm osseous union would ensue.* He accordingly after sawing off the extremities of the fragments, drilled a hole in the end of each, and passing a silver wire through, drew the bones together, and kept them in co-aptation until firm union was effected. Subsequently, Drs. Mott and Cheesman, colleagues of Dr. Rodgers, were likewise successful in inducing bony union by the same operation. This operation has not, we believe, been adopted in any other place than the New York Hospital. Indeed, the only notice of it that I have been able to meet with, is in a report of a clinical lecture by Mr. Liston, in which he makes these remarks: 'A proposal has, I think, been made, to denude the ends of the bones, drill holes in them, and connect them by a silver wire. It is too artificial a mode of proceeding, and I should fear, that from exposure and bruising of the ends necessary for accomplishing the object, (for perforation cannot be made unless by denuding the bone freely, and holding it securely by some contrivance until the object is accomplished,) that necrosis, instead of union, would be apt to follow.' Now, what Mr. Liston means by 'too artificial a mode of proceeding,' is not very apparent: in what is it more artificial than Mr. White's method? In the simple passing of a silver wire: and is an operation, although successful, to be abandoned because it is artificial? Surely this rule would have a very limited application in surgery. And as regards 'necrosis instead of union,' being more likely to follow, it will be sufficient to state, that this operation has hitherto never failed of success. And are we to refuse to adopt a sure plan of treatment, although it be severe, for one which, though less so, still, occasionally, is of no avail?"

Dr. Heard reports five successful cases and one unsuccessful, in which this operation was performed. Whatever the à priori objections to it, the facts deserve consideration.

MR. MALCOLMSON'S CLINICAL OBSERVATIONS ON SLOUGHING OF THE ABDOMINAL PARIETES, CONNECTED WITH ABSCESS OF THE LIVER.*

Mr. Malcolmson observes:—

"Mr. Cæsar Hawkins, surgeon to St. George's Hospital, London, has published an elaborate paper of eighty pages, in the eighteenth volume of the Transactions of the Royal Medico-Chirurgical Society, on what he styles 'Sloughing Abscess connected with the Liver,' in which the gangrenous ulceration of the integuments and other parts around the opening made into the abscess in two of his patients, is ascribed to the peculiar or malignant nature of the disease; and from this and other circumstances, he endeavours to establish the conclusion, that these cases were not examples of abscess of the liver, but of encysted tumors of the peritoneal coat. I have, however, found this gangrenous ulceration of the parietes of the abdomen to occur in several cases of common abscess in the substance of the liver, and believe it to depend on a cause quite unconnected with any thing peculiar in the internal disease, and that it becomes a serious obstacle to the recovery of many patients in whom ordinary abscesses of the liver are opened. These views are mentioned in a paper, which the same Society did me the honour to publish in the last volume of their Transactions. But although the symptom in question occurred in the remarkable case there narrated, it is not to be expected, that an opinion advocated by so experienced a surgeon as Mr. Hawkins, and adopted in other publications, should be overthrown by an incidental remark in a paper devoted to other objects. I shall, therefore, take this opportunity to relate several cases in which gangrenous ulceration and sloughing of the edges of the wound occurred, and in which dissection showed the disease to be ordinary abscess in the liver."

---

* Edinb. Med. and Surg. Journ. Oct. 1839.

Mr. Malcolmson relates several cases, some more, some less to the point. Certainly, however, he proves his case, and satisfactorily establishes the occurrence of phagedænic ulceration or gangrene of the abdominal integuments as consequence of common abscess in the liver.

We shall quote one case, not because it is the most conclusive, but because is the shortest.

Case.—A field officer, many years in India, and who had lived very freely, was admitted with a great swelling, like a child's head, in the epigastrium, extending nearly to the umbilicus; it was hard, except in the centre, where there was fluctuation and a violent arterial pulsation. The patient was early sensible of a fluttering in the side, and he was the first to detect the existence of fluid, the tumour having been at first hard, fixed, and insensible; he had been for some years subject to hepatic disease, and (according to report) to irregular action of the heart and arteries. He was on the sick-report only three weeks previous to his removal to this station in consequence of the march of his regiment; and early in his illness, the bleeding from four leeches produced collapse, from which he did not recover for eight hours. By my advice, an opening was made, from which fourteen ounces of reddish purulent matter, with thick diseased masses and sloughy membranes, were evacuated, the greater part of the latter remaining attached internally. The mind became confused, the wild ideas being of a pleasing kind and not constant. There was a purulent-like deposit in the urine, which, on drying, afforded crystals of a light pink-colour. He sank in a few days, sloughing of the parietes of the abdomen, round the wound, commencing in a leech-bite, having previously made some progress.

On inspecting the body, the abscess was found in the convex surface of the liver, which was attached to the diaphragm and anterior part of the peritoneum, and had pushed the stomach downwards and to the left side. The abscess in the substance of the liver was of moderate size, and contained good purulent matter, but a secondary collection of matter had formed within the adhesions, in which the peritoneum was found in a state of slough, protruding in shreds through the wound, the edges of which were gangrenous. The left lobe was hard, and contained tubercles; the gall-bladder contained good bile.

Enough of this. We introduce another observation or two of Mr. Malcolmson's. And first of the *disregard of medical opinions evinced by commanding officers in the army.*

"This patient like the last fell a victim to marching during May and June, the hottest months of the year, in a climate the mean annual temperature of which is 80°; and these months are 10° and 13° above this respectively; with 18° to 21° mean diurnal range, the maximum being a little above 100°, while the minimum seldom falls below 90°.* At this time, no troops were allowed to march till half-an-hour after sunrise, in consequence of an opinion adopted in certain quarters, that cholera, which is so frequently destructive to troops on the march, is caused by miasmata which would be dispersed by the heat of the sun; an opinion not entirely without foundation, but which should never have been adopted without reference to season, particular climate, and other circumstances, and which proved most disastrous to this small detachment of young soldiers, several others of whom had their health permanently destroyed by liver disease contracted during this march. It is so seldom that military authorities will attend to the best considered medical advice, that too much caution cannot be observed by those who have an opportunity of offering it; nor would it have been difficult to have foreseen the effects of marching European troops on foot, in woollen clothes, and loaded with arms from half-an-hour after sunrise, till 9, 10, or 11, A. M.; and who had then to wait till their tents came up, an hour or two for breakfast, of which they partook when exhausted by fatigue, thirst, and the direct rays of a burning sun and soil. Nor are the ill effects of marching at such a season entirely done away with, by avoiding this extreme degree of exposure, as I have had twice an opportunity of witnessing when marching in charge of European troops during the hot winds. It is melancholy to think that European soldiers should, in times of profound peace, be exposed at such seasons, which the natives themselves avoid; but it is some consolation to know, that the regular exercise, and greater temperance usual on a march, with the dryness of the air, and of the ground on which the men sleep, do not tend to the production of disease; and that marching in the rainy season, especially in the basaltic districts, where the soil is deep and retentive of moisture, and fever is usually prevalent, is even more injurious. Of this a remarkable example occurred to me in 1828, in six men who rejoined the horse and foot artillery at Nogpore from the coast, and who were all admitted into the hospital on their arrival; and their future history was brought to the notice of the military authorities, in the end of 1829, as follows; 'Four never recovered, one died in May 1829; one has been discharged the service; another has been sent to the coast on sick leave; and the fourth will probably be discharged next committee. The remaining two have had very frequent relapses since; and the non-commissioned officer sent with the party arrived labouring under severe fever.' An order was in consequence issued, prohibiting men from being sent through the jungles during the rainy months; in which it is to be regretted that the season of the hot winds was not included. So much more depends on the prevention of disease in hot climates, than on the most judicious treatment, and it is so seldom that facts such as may make an impression on non-professional men occur, that this digression will not be thought out of place, and was indeed one reason for selecting these two cases for illustration."

Our readers need not be told that the profession has been too much snubbed at head-quarters. Witness the Army Medical Reports—witness the Navy—witness (on land) the Poor-law Commissioners, and their remuneration of medical men. Aide toi et le ciel t'aidera must be the motto of the profession. They will only receive consideration and respect when they assume a disagreeable attitude.

Mr. Malcolmson makes some observations on the use of mercury in hepatitis, which we cite without comment.

" These and innumerable other cases clearly show how erroneous the notion is, still very generally prevalent, that an extreme torpor of the absorbents exists in severe hepatitis, dysentery, and remittent fever, and that this is the cause 'why the largest doses internally, and the most assiduous inunctions externally, will sometimes fail in introducing a sufficient quantity of mercury to saturate the system.'* And hence the use of calomel in scruples and drachms daily, and rubbing in mercurial ointment, without reference to quantity, under the idea that all that has been taken or rubbed in before has not entered the system, and can therefore have no effect on the disease or the constitution. But if it be true that the mercury is absorbed, and mixes with the circulating fluids, how injurious must such practice be, when the medicine employed is one of such unequalled value in these diseases, but at the same time so energetic in its effects on the various tissues and organs, and whose mischievous effects remain so long in the constitution that has been thus poisoned with it; and how little to be wondered at is it, that many practitioners run into the other extreme of discarding it altogether, or of combining it with a severe and mischievous course of purgation, that may indeed sometimes obviate these evils, but, at the same time, take from our hands the power of using it effectually, and in regulated quantity; and proves directly injurious by irritating the intestinal canal, of itself (in such cases) too liable to take on disease, and by depressing the powers of the constitution in a greater degree than the freest and most effectual depletion. Considering this question as one of vital importance, and without satisfying myself regarding which I could not practice in India with any satisfaction, I was not content with the study of my own cases, but obtained and carefully analysed the records of some other hospitals, the intelligent physicians of which were more or less influenced by the notions referred to; and I found, that when great quantities of mercury had been unsuccessfully employed, (with the exception of extremely few cases, that might be explained by imperfection in the records, or by idiosyncrasy,) the gums became more or less sore after the exhibition of very moderate quantities of the medicine, and that in general a slight and evanescent ptyalism took place very early, showing clearly that it did enter the system, and that its usual sensible effects were prevented by the existence of disease overpowering its action. When, therefore, the gums or salivary glands are at all affected by moderate doses of mercurial medicines, and when during their continuance the partial salivation becomes less marked, and the gums less tender, or when the effect of the medicine does not become more evident, or when it too rapidly diminishes on its being omitted, it may be certainly concluded that it will not affect the system in a beneficial manner until an impression is made on the disease by other means, and that it is always necessary to stop its exhibition when a moderate quantity has been prescribed.

---

* "Journal of the Asiatic Society of Bengal, Vol. ii. p. 239 and 542."

It is the irritation of the disease, as above stated, that prevents the mouth becoming affected in liver disease, in dysentery, in peritoneal inflammation, and still more in fever, in all of which there are abundant proofs of the mercury having been absorbed, in the severe salivations, loss of teeth, pains of the limbs, and affections of the periosteum, that too often follow its employment, especially in those cases in which unsuccessful attempts have been made to affect the mouth in the early period of the disease. It is, however, necessary to be aware, that a slight degree of irritation is sufficient to stop salivation for a time, even when fully established, and that, therefore, it may not always be proper to omit the medicine, until it has had a fair trial. Thus the paroxysm of an intermittent will sometimes dry up the mouth during the hot fit; and I have seen the same happen from the excitement of a blister. Hence the observant practitioner must not omit to use any assistance to be derived from the peculiar appearance of the gums, the character of the saliva, and other means by which his judgment may be assisted; it will, however, seldom happen, that, when depletion has been as freely used as the case will permit, mercury can be safely continued, when its effects on the mouth either diminish or do not advance under the use of moderate doses. These remarks are also applicable to a rule insisted on by some authors, that a sore mouth is useful as an index of the system being impregnated with mercury, and should therefore, if possible, be induced."

---

* "I have had a couple of Malays daily employed for hours at a time in unsuccessful frictions, the lymphatic system refusing to take up the ointment in any considerable quantity.—*Johnson on the Influence of Tropical Climates.*"

JERVIS STREET HOSPITAL.

DR. CORRIGAN ON THE TREATMENT OF ACUTE RHEUMATISM BY OPIUM.*

Dr. Corrigan has written a very long, and a very interesting series of Clinical Observations on this subject. We shall mark out the main passages, and present them to our readers.

Dr. Corrigan remarks, that it is a desideratum to find a plan of treatment, which will shorten the duration of the disease—prevent the occurrence of the serious complications of pericarditis, endocarditis, &c. and not reduce the strength of the patient. He believes, that the treatment by opium will be found to possess the advantages sought for. It shortens the duration of the disease; it enables the patient to pass through so painful a disease with comparatively little suffering; it husbands his strength, so that when convalescent he rises from bed with comparatively little depression of vascular energy and muscular strength; and lastly, it diminishes very remarkably the tendency to the occurrence of such complications.

After relating eight cases, Dr. Corrigan observes:—

"The most important rule to be remembered in employing opium for the cure of acute rheumatism is, *that full and sufficient doses* shall be exhibited. I have heard of opiate treatment having disappointed some who have tried it. On inquiry, I have learned that in those cases it has been given only to the extent of a grain every fourth or every sixth hour. This is not 'the treatment of rheumatism by opium;' it is making the patient worse than before; it is inflicting on the patient the mischief arising from the stimulant effects of the drug, and withholding from him all the benefits of its sedative influence. The opium should always be increased in dose, both in frequency and quantity, until the patient feels decided relief; and should be then kept up at that dose until the disease is steadily declining. The first indication that tells the practitioner, he has reached the proper dose, is the statement of the patient, who in reply to an inquiry as to how he has passed the night, probably says that he has not slept, but that he is free from pain and feels comfortable. This effect having been attained, the opium may then be continued in repetitions of the same dose as to frequency and quantity. Clarke's Case, No. VIII. shows the rapidly good effects of the large doses. A relapse set in: he got two grains of opium every third hour, uninterruptedly for twenty-four hours. He took sixteen grains of opium within twenty-four hours, and the relapse was suddenly cut short. In Rooney's case, No. III. in the first day eight grains of opium were administered. The dose was then increased to twelve grains within the twenty-four hours for the second, third, and fourth days; and on the fifth day he was taking bark. In Dr. Aldridge's Case, the quantity taken in a fortnight amounted to about 200 grains. I think about ten or twelve grains in every twenty-four hours, will be found the average quantity required. The tolerance of the remedy is a remarkable feature in the treatment, and may, I think, be fairly adduced as an argument in favour of its propriety. The head is not affected by the large quantity

---

[*] Dublin Journal, Nov. 1839.

of opium administered. This is remarkably shown in Dr. Aldridge's Case, (Case VI.) where the head was not injured by the opium, even though there had been previously a tendency to derangement of cerebral functions in all previous febrile affections. There is another singular circumstance connected with the exhibition of the opium. It is the occurrence of diarrhœa while the patient is using the opium even in full doses; in some instances, the diarrhœa becoming so troublesome as to require starch enemata, or chalk mixture, with kino. It is seldom necessary to purge the patient while administering the opium; indeed the pains are sometimes brought back by the administration of a purgative, either from the patient catching cold in rising from bed, or from the irritability produced by the action of the purgative. The patient's bowels, if they have not been constipated in the commencement of the attack, may be not only safely, but with benefit, not disturbed more than once in two days.

In most cases, Dr. Corrigan applies embrocations to the affected joints—warm spirits of turpentine, or camphorated spirit or simple decoction of poppy-heads, or, when only slight stiffness with little or no swelling remains, a liniment of equal parts of ol. terebinth, and ol. camphorat. with one drachm of sulphur to each ounce of the liniment.

"There arises in the progress of a case of acute rheumatism a stage that is sometimes perplexing. The fever is very much abated, the skin is covered with almost constant perspiration, even sometimes to the degree of producing a miliary eruption, and so profuse in quantity that the patient, when the clothes are raised, steams like one in a vapour bath, and the skin becomes clammy, pale, and soddened; the pains become erratic, and the pulse becomes quicker and smaller: in such a stage, and with these symptoms, the conjunction of sulphate of quinine with opium is the combination that, I think, will be found most beneficial. K.'s Case (No. V.) is an example of such as I have described, and shows the good result of the exhibition of the combination of quinine and opium in that particular stage. Another remedy of considerable efficiency, when the acute stage is passing away, is the mist. guaiaci. The preparations of guaiacum have been an old and favourite popular remedy in rheumatism, and have fallen, perhaps undeservedly, into comparative disrepute. As it is not my wish to travel beyond the acute form of the disease, I shall make no observation on the use of the hydriodate of potass, or of any of the remedies adapted to rheumatism when passing into a chronic state. There is one form of acute rheumatism in which the opiate treatment will cause disappointment, should the practitioner trust to it alone. It is that form which we sometimes meet with, in persons whose habits of living, and perhaps hereditary tendency, give a predisposition to gout, and in whom, when rheumatism does appear, it is not genuine rheumatism, but a combination of gout with rheumatism."

We have long been in the habit of using opium freely in acute rheumatism, but never, we confess, so freely as Dr. Corrigan. His plan is worthy a careful trial, and, if it bears out its author's anticipations, it will be highly valuable.

PHILADELPHIA HOSPITAL.

Two Cases of Rupture of the Axillary Artery, during the Reduction of Dislocations of the Humerus.

Some few years ago we presented our readers with an account of a paper, published by M. Flambert, a surgeon of, we think, the Hôtel Dieu at Lyons, in the Répertoire. In that paper the author detailed seven cases of serious injury inflicted during the reduction of dislocations of the head of the humerus. Amongst other accidents there were, we know, laceration of the brachial plexus, and of the axillary artery.

The following cases quoted from Dr. Gibson's Institutes of Surgery by our contemporary of Dublin, will form a pendent to those we have alluded to.

Case 1.—It was that of a man, aged fifty, of intemperate habits, whose left shoulder was dislocated by the fall of a heavy chest. The first practitioner mistook the accident for fracture, and mistreated it accordingly, and the earliest attempt at reduction was near three weeks after. The most forcible, but otherwise judicious, means were tried without effect; and the man still anxious to have a useful limb, no matter at what expense of suffering, came to Philadelphia to consult Dr. Humphrey, by whom he was referred to Dr. Gibson, two months after the receipt of the injury.

By the abstraction of a large quantity of blood, the persevering use of the pulleys, &c. for about an hour and a half, till the patient was quite exhausted, the reduction was effected.

About an hour after

" There was a general swelling about the deltoid and pectoral muscles, which was noticed both by Dr. Humphrey and myself; but supposing it to be an approach to inflammation, a consequence to be expected after the efforts made to restore the head of the bone, nothing was apprehended from it. The swelling, however, increased very slowly for several hours; and although remarked by the house pupils and attendants, did not excite any alarm, inasmuch as the patient complained of little pain, and conversed cheerfully with some of his friends during the greater part of the afternoon. About six o'clock in the evening, Dr. Brinton, one of the house-pupils, visited him, and hearing that he had a short time before turned over in bed in order to sleep, and struck with the unusually palid appearance of his face, was induced to suspect that some unfavourable change had taken place. These suspicions were confirmed, for, upon examination, the pulse was found scarcely perceptible, and the whole system so much sunk as to render recovery impossible. Leaving Dr. Hopkinson in charge of the patient, Dr. Brinton immediately repaired to my house, and informed me of his condition. Before I could reach him, however, he expired. The appearance of the shoulder and adjacent parts soon explained, it seemed to me, the nature of the case; for the pectoral muscle was considerably elevated, and the skin for some distance about the chest and shoulder discoloured and ecchymosed, showing, in all probability, that some large artery or vein had been torn across, during the efforts to reduce the luxation. To determine this point with accuracy, I obtained the consent of the patient's friends to examine the body; and at ten o'clock next morning, the dissection was made by Drs. Horner and Lawrence, in presence of Drs. Humphrey, Jackson, the house-pupils, and myself.

Under the axillary vein, as it passes near the glenoid cavity, a large mass of coagulated blood was observed; and on clearing this away, *the axillary artery was seen protruding with its mouth open, having been torn directly across*, and separated from its connexions. Upon further examination it was discovered that the head of the bone, at the time of the luxation, had been carried downwards into the axilla, about an inch and a half below the glenoid cavity, where it formed a white ligamentous, cup-like, socket in the subscapularis muscle, and pressing upon the axillary artery, produced such a degree of inflammation as gave rise to a copious effusion of coagulable lymph, which united the artery completely for some distance to the capsule of the joint, where it surrounded the neck of the bone. The lower part of the capsule was torn and separated from the neck of the humerus; the upper part remained entire, and was very much thickened. The head of the bone filled completely the old sockets or glenoid cavity. Beneath the deltoid muscle there was a large hollow filled with blood, and the whole arm, as far as the elbow, had been extensively injected with the same fluid. The os humeri was carefully dissected from the condyles to its head, and the periosteum entirely scraped off, without showing the slightest vestige of a fracture. The long tendon of the biceps was found considerably elongated, but not ruptured."

Case 2. It was that of John Layton, ætat. thirty-five, a muscular, athletic man, about six feet high, accustomed to the use of a pint of spirits daily. The left os humeri had been dislocated nine weeks before, by a violent fall on the shoulder. Before coming under Dr. Gibson's care, four different attempts had been made at reduction, much force used, and once the body suspended upon the axilla over the top of a door. For nine days he was kept on low diet, lost ten ounces of blood daily, gentle motion was given to the arm in various directions every day, and careful friction with oils applied to the shoulder. After this the reduction was attempted.

The plan was pursued unremittingly until the 15th of March, on which day it was determined to attempt to restore the bone to its natural situation. After giving a description of the attempts at reduction, he says:

" Our efforts, notwithstanding, were continued in the most gentle and cautious way possible, sometimes by the pulleys, sometimes by the heel in the axilla, when we had the satisfaction at last, to find the head of the bone gradually approach, and finally enter, with an audible snap, the glenoid cavity; but not until the lapse of an hour and three-quarters from the commencement of the operation.

The patient, after being put to bed, complained chiefly of weakness, of numbness throughout the arm, of slight excoriation of the arm-pit, and bend of the arm. In other respects, he said, he was comfortable, and slept during the night without an opiate.

March 16. I saw him at eight in the morning, and observed a general swelling over the deltoid and part of the pectoralis major muscles, but not more than could have been expected under similar circumstances. Upon pressing, however, upon the most prominent part of the swelling, I was surprised to find a distinct pulsation of an aneurismal character. During the day both the swelling and pulsation slowly increased, and satisfied me that an aneurism existed in the axillary artery. Dr. Barton saw the patient in the afternoon and drew the same conclusion."

It was determined in consultation to tie the subclavian artery, which was done the second day after the operation. On the seventh day after the patient died, gangrene of the arm having supervened. The artery was found closely adherent to the head of the bone and capsular ligament by dense cellular or ligamentous substance, so that it appeared impossible to effect the reduction of the head of the bone and not cause the rupture of the vessel. Such had taken place; the inner and middle coats of the artery where it adhered to the bone had been ruptured, and the external expanded into a true aneurismal sac; this had burst posteriorly, and formed a diffuse aneurism. The aneurismal walls were so well defined and compact, that Dr. Gibson is inclined to think the aneurism existed prior to the last attempt at reduction, and had been then burst open.

Dr. Gibson concludes, and we think him right, that where no adhesion exists between the artery and surrounding parts, the operation may be done with safety; that, on the contrary, when adhesion does exist (and of this we have no means to judge,) rupture of the vessel must be an inevitable consequence, whether the reduction be effected by force or by the most gentle means.

He is disposed to condemn, in the most unqualified terms, all attempts at restoration of *ancient* luxations of the humerus and other bones, except in cases where the patient is remarkably thin and debilitated, and where there has been little or no inflammation at the time or subsequent to the displacement.

CLINICAL REPORT. By ALEXANDER WATSON, Surgeon to the Royal Infirmary of Edinburgh.*

Mr. Watson's main object is to discountenance a rage for operating, and to shew that great operations are often a great evil.

"Fortunately, however," he says, "the cultivation of morbid anatomy and pathology has done much to lessen, to a very surprising extent,† the number of really necessary operations, not only by pointing out more rational means of curing diseases, but also by showing the impropriety of resorting to operations, in many cases where the general system is either the source of the local disease, or is so much affected that success is hopeless; and, consequently, that operation, in such cases, is cruel as well as absurd. The increased attention, also, which is devoted to the study of anatomy and surgery, is rendering every surgeon quite competent to the performance of all the ordinary operations of surgery, both from their greater simplification and being better understood.

In consequence of the undue importance attached to operations, the principles deduced from experience, by the highest authorities in the profession, as to the propriety or impropriety of operating in particular cases, are either misunderstood, or are disregarded for the vanity of a display in flourishing the mutilating knife upon a fellow-creature, even in desperate or hopeless cases. In some such cases the chief argument I have heard used for operating was, 'to give the patient a chance,' as if the shock from the amputation of a limb was calculated to revive the expiring embers of life! In others the ingenuity of the surgeon seemed put upon the rack to create reasons 'to justify the operation,' which, if a measure really necessary to preserve life, required no other justification than that there are good grounds for expecting success.

But when a surgeon either resolves to perform a capital operation, which endangers the life of the patient, upon a chance of success, implying that success, though possible, by some fortuitous or miraculous escape that may occur, is very improbable; or finds himself under the necessity of ransacking his ingenuity to contrive arguments to justify his proceedings, he may well pause and inquire what is the rule of duty in such a case. Should he not inquire what are the principles of the profession, which reason and experience have established as applicable to such cases? what the duty of one man to another? whether or not he would sanction the operation if he was himself the patient, or if the case was that of his own child?

In cases of injury or disease capable of being cured only by a capital operation, before resorting to this measure, the following questions should always be satisfactorily answered; 1st, Is the operation necessary to save the life of the patient? 2nd, Is there a fair prospect of success? Unless the case stands this simple test, the performance of the operation would be decidedly improper.

In proof of the correctness of these statements, by acting upon the principles here described, I have, during the last four years that I have been connected with the Infirmary, performed only 16 amputations of the extremities, 13 having been in the house and 3 in private. These operations were performed partly on account of severe injuries, and partly for diseases of the bones and joints. They consisted of amputations above the knee, 7; of the leg, 4; of shoulder joint, 2; of arm above elbow, 3; making altogether, 16. Of these, 15 recovered and only one died. But had these principles been deviated from, and had other cases of patients in a dying state been operated on, to give them 'a chance,' my success would have been very different."

---

* Edinburgh Journal, July 1839.

† "Mr. Lawrence of St. Bartholomew's Hospital says, in his Lectures, to an extent of 'one-half or two-thirds within the last twenty-five years.'"

We extract an observation or two, on the subject of injuries of the head. Speaking of *concussion,* Mr. Watson remarks :—

That the disorder or lesion produced by concussion is chiefly situated in the hemispheres of the cerebrum, seems highly probable, from the state of the patients almost completely resembling that of animals from whose heads these hemispheres have been removed. According to the experiments of physiologists, (see Müller,) animals in this state could be kept alive for a great length of time; they lost their intellectual faculties, as also their sight and hearing; but they retained muscular irritability, and those functions which are, in a great measure, independent of the hemispheres of the cerebrum. Hence they swallowed food, and the animal functions were carried on, but they seemed as if always asleep and disliked to be disturbed. These functions, though (for their perfect state) dependent on the integrity of the whole nervous system, are carried on chiefly by the influence of the *medulla oblongata,* the spinal cord, and sympathetic nerve; while the disturbed and diminished power of the cerebrum tends to lessen, and in some cases to annihilate their power.

He makes some observations on compression of the brain arising from extravasation of blood. We extract the following :—

To ascertain the situation of blood effused within the cavity of the cranium with precision, is a problem beset with many difficulties. There are three situations in which it may occur, namely, between the skull and the *dura mater,* between the *dura mater* and surface of the brain, or into the interior of the brain. But the effusion does not always take place at the situation of an external injury, as is remarkable in cases 4, 5, and 6. On the contrary, it often takes place in the opposite side of the cranium, and yet the symptoms are precisely similar.

It is of importance to observe, however, that when the effusion is at the base of the cranium, compressing the *medulla oblongata,* death is generally immediate; whereas, if the blood is situated at any of the sides or upper part of the cranium, the patient, though he becomes apoplectic, may live for a considerable number of hours or even days.

Another circumstance worthy of remark, is that relating to the opinion stated by the late Mr. Abernethy and Sir B. Brodie, that blood is never poured out in such quantity between the bone and *dura mater* as to produce dangerous pressure upon the brain, 'except where the middle meningeal artery has been lacerated.'* Sir B. Brodie further states, that he had not seen a case of laceration of this vessel, without a fracture running across its bony canal. But he adds, that some cases of this artery being opened without fracture of the bone have been recorded by others.

Here, then, we have evidence, at least, of the frequent occurrence of rupture of the meningeal artery, when the bone, along which it is situated, is fractured.

In cases, therefore, accompanied with symptoms of compression of the brain from effusion of blood within the cranium, when death does not take place suddenly, when there is an injury in the temporo-parietal region, but more especially when there is a fracture of the skull in this situation, and bleeding from the ear the *probability* of this being the seat of the effused blood amounts almost to *certainty.*

---

* Medico-Chirurgical Transactions, v.—xiv.

UNIVERSITY COLLEGE HOSPITAL.

Death from the Use of the Twisted Suture for a Varicose Vein.*

A dyer, aged 59, of intemperate habits, was admitted June 19, 1839, with an ulcer on the right leg, and many tortuous veins connected with it. The sore was at first covered with the water dressing, and after the man's bowels had been cleared out with a dose of calomel and senna mixture it was determined to try to cure the varicose veins with twisted sutures, and three were at once made; one about four inches above the knee, and two others below it.

Much suffering and swelling followed the suture in the thigh; it was withdrawn on the 26th.

27th. Very severe pain in the left shoulder and arm. Two or three shivering fits, each of half an hour's duration, succeeded by heat and other febrile disturbance.

28th. Shoulder and arm still exceedingly painful. Another shivering fit this morning. Considerable redness and hardness at inner side of the thigh, in the course of the great saphænal vein. The two other pins were removed. On the 8th of July, the man was attacked with diarrhœa. There was low fever. On the 12th, abscesses in the thigh in the situation where the upper suture had been applied. Openings made for the discharge of the matter. On the 17th, he died.

Dissection.—Surface generally of a yellow tinge. *Thorax:* lungs extensively adherent to the parietes of the chest, especially the left, and the adhesions not of long standing. Tubercular deposits in various stages within the lungs. In the pericardium three ounces of serous fluid. Heart somewhat enlarged and softened. Osseous deposits in the semilunar valves of the aorta, and under the lining of left ventricle.

Abdomen.—Left kidney contained pus. The right iliac vein also had pus in it as high up as the vena cava. The crural vein was occupied by purulent matter, as well as the popliteal.

A large quantity of purulent matter was found under the fascia lata and in the intermuscular cellular tissue. The right hip and knee-joints both contained pus, and within the left shoulder-joint, and in the textures external to it, pus was likewise detected.

Were the "tubercular deposits," in the lungs, "secondary deposits?" We are inclined to think that the latter were mistakan for the former. Be that as it may, the case was clearly one of phlebitis and secondary deposits, from the operation. The question is, can such operations be justified? We are not sure of that. The risk is considerable, the utility far from assured. Mr. Cooper, rather an apologist than otherwise, for the operation, observes :—

"The case calls our attention to the question, under what circumstances is the attempt to cure varicose veins of the leg justifiable by any means attended with a risk of exciting this formidable disorder?

I should say, certainly not, if the varicose veins, and the ulcer connected with them, admit of relief from other plans, and are not producing severe annoyance, nor are generally interfering with a person's endeavour to gain a livelihood.

Then, if this kind of twisted suture be adopted, ought we to apply it at once in several places, or only in one, repeating it afterwards if another is necessary? The latter method is probably the safest. In particular, I advise you not to adopt the practice at all in unfavourable constitutions."

Perhaps Mr. Cooper's advice might be extended to not performing the operation at all in *any* constitution.

---

* Med. Gaz. Oct. 25, 1839.

Spirit of the British and American Periodicals, &c.

SKETCHES OF MEDICINE IN THE EAST. By VALENTINE MOTT, M.D. OF NEW YORK.

These sketches, or as their able author terms them gleanings, are contained in the American Journal of the Medical Sciences for August, 1839. They present a good deal to interest us, and may help us to the formation of a just opinion on the probability of a political regeneration of the East.

1. *The Medical School of Egypt.*—Every body knows that Mahomet Ali's policy has been to surround himself with European agents of his despotism. Vanity has, no doubt, had something to do with this—selfishness has had much more. But, whatever the motive, the effects, in the instance of medicine and a medical establishment, are indubitably beneficial.

" From a fear too no doubt, that a sufficient inducement could not be held out, for foreigners of merit to take up their residence in this benighted country, the Pasha has from time to time been in the habit of sending to the medical schools of Europe, and particularly of France, a number of young Arabs, to be educated at the expense of the government. In this way a ready communication is had with the foreign practitioners and the native eléves of the country, who assemble in the hospitals and medical schools, until the former have acquired a sufficient knowledge of the Arabic language to impart instruction to them in their native tongue. In this way we have witnessed the lessons of the professor conveyed to the pupil by a young Egyptian physician who had been educated in Paris, French being the language used for this purpose. The Arabic, as I was informed by the professors, is extremely difficult to be acquired, and those only who had resided in the country for eight or ten years, were able to read it and above all to speak and understand it sufficiently well to hold intercourse with the natives and impart instruction directly to the pupils."

" The medical school of Egypt, which for some years has been located at *Abou-Zabel*, is now removed to *Esbekie*, in the immediate vicinity of Cairo; the former being too remote from the capital, to enable the professors, from their necessary duties in private practice, to do full justice to the institution. The school makes part of a large and well arranged military hospital, beautifully and pleasantly situated on the western bank of the Nile, in the suburbs of Cairo. This hospital contained thirteen hundred patients when we visited it. The immediate connection of the medical school with this large hospital, together, making one great edifice, is in my opinion an admirable arrangement for the benefit of the pupils, and well deserving of imitation in other and more enlightened countries. The lecture-rooms of the professors are all exceedingly well arranged, and the amphitheatre for anatomy is particularly well constructed, with an abundance of light from a cupola on the top. A large and well arranged pharmacy, with specimens of every kind of domestic and foreign drug, while it abundantly supplies medicines to the wants of the hospital, serves as a means of instructing the students. A large laboratory is connected with it, in which the new chemicals, such as alkaloids, and others, are prepared, to answer the demands of the physicians, and at the same time extend information to the pupils, by making them acquainted with chemical pharmacy.

The number of pupils attending the lectures at the time of our visit, was two hundred and sixty. They are not only attendants upon the lectures of the professors, but residents in the hospital, in order to observe the treatment of the patients, and to become familiar with the almost endless forms and features of disease.

They are all educated at the public expense, have their quarters in the hospital, where they eat and sleep, and are obedient to a regular military and medical discipline, and rank as *sous aides*, in the surgical staff of the army. Here they are compelled to remain from three to four years in the constant pursuit of their studies, and in the regular observance of disease, at all times obedient to the call of their superiors, and ready to administer to the wants of the patients.

The beautiful order and methodical arrangements, as well as neatness, in every part of this establishment, surprised and delighted me. It unites the activity of the French, with the cleanliness and good system of the German hospitals, and therefore may be said to have the excellence of both."

The anatomical museum is very respectable, and will serve as the nucleus of a good collection. It consists mostly of bones, casts, and wax models, with the excellent tributary aids, of parts, and the whole subject, of the ingenious invention of Doctor Auzoux. From the expense of alcohol, and the great waste, owing to the excessive heat and dryness of the climate of Egypt, few or no specimens of morbid parts can be preserved as wet preparations. They are compelled to resort to drawings and wax models, to perpetuate their similitude.

The apparatus for the illustration of the physical sciences is neat, and sufficiently ample.

The Civil Hospital is situated in the city of Cairo, and is located in a spacious building, but recently one of the palaces of Mahomet Ali. It is placed very favourably for good air, near the principal square of this very curious and truly oriental city. It is an admirable transfer of the noble and superfluous domain of a single individual to humane and charitable purposes, to the wants, necessities, and the afflictions of the poor and the diseased. Dr. Mott was informed that it had only been established for one year, and was but the beginning of an asylum and a home for the suffering and the sick.

" It contained between two and three hundred patients, besides apartments, especially appropriated for a lying-in establishment. Although there is a male and female department in the same building, there is the peculiar eastern vigilance, and harem-like care, that the females shall not even be seen by the male patients. On no pretence, whatever, is any male admitted into the female part of the hospital unless he be a professional man, and then he must accompany a medical officer of the establishment, who only has authority to introduce him.

Connected with this maternité, is a school for the education of young women, to fit them properly to be accoucheuses or sages femmes. It has a well organised class of young females from the age of fifteen to twenty, under the care of a French professor, aided by a young Arab, whose acquaintance with the French language enabled the pupils to comprehend readily the lessons of the principal. The class consisted, on the day of our visit, of sixteen. They were dressed as Europeans, were very neat and respectable in their appearance, and exhibited various tints, and shades of colour, from the tawny Arab, to the jet black Nubian and Abyssinian.

They were all assembled in the class, at their lessons, when we entered, and were receiving instruction from the professor. Their note-books were in Arabic and French. I was requested to test the practical knowledge of one of them on the mannikin. One, the most convenient, and as black as ebony, was requested to come forward. Different questions in French were put through the young Egyptian, and on the machines the pupil proved by her manipulations with the fœtus, that she not only comprehended perfectly the question, but that she understood well the subject.

When their knowledge is thought sufficient, they are permitted to exercise the art upon the patients of the institution. In this way, after a residence of some time in the hospital, subjected to regular discipline and instruction, they become very competent practitioners of this branch of the profession. They informed me that all of them were educated at the expense of the Pasha, and that his object was to place them in the harems, and thereby dispense with male obstetricians; that Mahomet Ali, from time to time, was in the practice of purchasing young females at the slave market at Cairo, and placing them in the maternité for instruction. In this way he kept up a constant supply for the wants of the different harems of his family and favourites.

This establishment is undoubtedly founded upon the liberal and humane plans of the French, who annually educate, and send forth a large number of well instructed and competent young women, not only in every direction through their own provinces, but into other countries. It is to be hoped, that in Egypt, a more enlarged and liberal view will be taken of this system, and ere long that its salutary and benign influence, will be extended, far beyond the gardens and walls of the harems; and that the almost countless poor, may receive something in return for what they labour so hard to support.

Every facility seemed to be afforded in this obstetric school, in preparations, apparatus and instruments, as well as the living subject, to make the pupils competent and useful practitioners."

2. *Medical School at Athens.*—" An attempt is making at Athens, the present capital of the modern Greek empire, to organize a medical school, by several well educated and respectable Bavarian physicians and surgeons, who are attached to the court, and whom King Otho has induced to settle in his country. At the time of my visit, (April 1838), they had from nine to twelve pupils, natives of the country, who were lectured to by the Germans in the modern Greek language; the professors from a residence of several years in the country, being able to impart instruction to the pupils in their native tongue. Although it is the merest beginning of a medical school, it is nevertheless praiseworthy and honourable to its present founders, and may be the germ of an institution, which shall move onward hand in hand, with the regeneration of poor fallen Greece."

Athens possesses at this moment a most excellent military hospital, arranged upon the modern European plan, capable of containing very comfortably several hundred patients. Also a highly respectable and well arranged cabinet of Natural History.

" From what I saw of the diseases of Greece, both in the hospital at Athens, and in the practice of two of the physicians attached to the court of King Otho, they appear to be generally of an inflammatory character. This is especially true with those of a febrile form, and the brain seems to be the organ in which this is most particularly manifested. All their endemic fevers commence with strong synochal symptoms, and are remarkably fatal to new comers during the cerebral determination. If they escape from this stage, they are precipitated very speedily into a profound typhus, or it assumes an intermittent fever of the quotidian or tertian types. These latter continue with great obstinacy in defiance of quinine and arsenic, and frequently terminate fatally in general hydropic effusions, and hypertrophy of the spleen.

The Greeks are generally a very temperate people, and from living in a mild climate, subject to few sudden variations, and an atmosphere the purest and possessing a clearness and transparency that far exceeds any thing I ever met with in any other country, are consequently a hardy and vigorous race. The great distance at which an object can be seen, and the deception thence arising in the computation of hours or miles in travelling, was a frequent remark with my companions and myself, and we found that the same thing had been noticed by foreigners resident in the country.

It ought to be recollected by all who visit Greece, that an abstemious mode of living, and particularly great moderation in the use of stimulating drinks, is essential to the preservation of health. From my own observation less wine can be borne in that climate, than in any I ever visited. Every year at Athens I found that the endemic fever was fatal to many Europeans, from imprudence in indulging in their accustomed quantity of stimulating drinks, particularly wines."

3. *The Lepra Græcorum.*—"The Lepra of Greece I had long felt a great desire to examine, and took the opportunity of visiting some cases of it through the politeness of Dr. R. and of making numerous inquiries of him as to the general character and treatment of this ancient and curious disease. It bears a very striking resemblance to the venereal disease, in its primary and secondary or confirmed stages. So marked indeed is the coincidence, that it does not appear to me to be going too far to say that it may be the parent or progenitor of lues venerea. It attacks primarily the genital organs, then the throat, skin, and lastly the bones. It is generally a more chronic affection than lues as we commonly see it, but it assails the same parts and resembles many cases of lues, such as I have often seen; so much so, that Dr. Jackson of New York, my travelling companion, as well as myself, confessed, that it would not be in our power to discriminate between them. The lepra on the genitals, and in the throat is commonly attended with more hardened and elevated ulcerations, with more hypertrophy of the surrounding tissues, than ordinary cases of lues, but such precisely, as I have seen in the venereal disease. The affection of the skin resembles the worst and most vitiated forms of syphilitic eruption, such for example as the large elevated, conical and concentric scab.

Such is the horror that the Greeks have of this disease, that they abandon their dearest and best friends; and the unfortunate victim is frequently obliged to seek refuge among the beasts of the field, and in the recesses of the mountains. An instance of this I saw in the plains of Argos, of a wretched man, affected with this loathsome malady, shunned by every one, friendless and homeless. Even when it appears among the better part of these people, it is considered a sufficient ground in either sex for a divorce, and it is sanctioned both by the civil and ecclesiastical laws.

Lepra is no longer considered as an incurable disease. It is more intractable and obstinate than common forms or cases of lues venerea, but is found to yield to proper treatment. The remedies most successful, are the same as in syphilis—mercurial and arsenical. Of all the forms of mercury, the corrosive sublimate, with sarsaparilla, is found the most efficacious. In obstinate cases, after the mercurial treatment has been long continued, without curative effects, the arsenical is substituted with the happiest results. The analogy here, too, is very striking, as every one must have observed the same thing in the treatment of the venereal disease."

4. *Facility of Union by the First Intention in Egypt.*—"The Egyptians are a very temperate people from necessity; there is no wine or ardent spirits peculiar to the country. To this, more than to climate alone, we would ascribe the greater readiness with which their diseases yield to treatment. From the state of nature in which they live, there is very little predisposition to inflammation; and hence the readiness with which they recover from wounds, and the remarkable success of surgical operations.

The salutary and desirable process of union by the first intention, or adhesion, is much more common and complete than in any part of Europe, or even in America. This has been ascribed by some to the heat and dryness of the climate alone; but we would give a part of the credit to the sound and natural constitutions of the Arabs. In the more civilized and refined countries of Europe and America, there is frequently either too much inflammation, or too high a degree of irritability, to have this object accomplished. Both these states of the system are well known by every surgeon to interfere with, and indeed frequently to frustrate, this process entirely.

Even the wound made in the operation of lithotomy, which is performed in the lateral way, except that the prostate and neck of the bladder are cut directly downwards towards the rectum as recommended and practised by Vacca, frequently heals by the first intention, as I was informed by Dr. Pruner, a very intelligent and distinguished German surgeon, at Cairo, who ranks high in the confidence of Mahomet Ali.

My experience in New York warrants me in saying, that the adhesive inflammation is, *cæteris paribus*, more favourable for union by the first intention, during our hot seasons, than in the cold weather of winter. This I have noticed in an abundance of instances, and have been in the habit of ascribing it to the lesser degree of inflammation that follows operations and injuries in the summer months."

Aneurisms are almost unknown in Egypt.

5. *The Plague.*—" Since visiting a number of oriental cities, it is no longer surprising to me that they should, from time to time, be scourged with typhoid forms of disease, and particularly the appalling and terrific forms of it, denominated the peste or plague. As long as their cities remain, and their habits continue, it must be, from time to time, the companion of the Mussulman. The features and appearance of this disease, like the Asiatic cholera, are frightful indeed, from the overwhelming operations of the contagion, infection or poison that produces it upon the nervous system. It certainly resembles the effect which some of the more deadly vegetable and animal poisons produce upon animal life. From the mild vegetable miasm that produces intermittent and remittent fevers, there is a variety of causes, vegetable and animal, differing in intensity and violence, until we arrive at the most concentrated of all, which is the *materies morbi* of plague itself.

From the facts which I collected at Cairo, Alexandria, Smyrna and Constantinople, in each of which places the disease existed, and in the first of which I saw a number of cases, my belief is, that it is not contagious, but infectious and atmospheric."

6. *Plague-clothes sent to London!* What will the quarantine people say to this? Conceive the horror of the Cockneys if they had suspected what a trick was being played on them.

" Doctor Pruner of Cairo informed me, that he never knew an instance of plague to follow an autopsy, among the pupils of the hospital, and that they made post-mortem examinations of plague subjects, as freely as those who die from other diseases. Dr. ——— of Alexandria, stated to us, that he sent the clothes and mattrass, of a person who had died of plague, to London, and that a quantity of the discharge from the charbons and buboes was mingled with them, and cotton was imbued with it purposely. It arrived safe, was taken home, but no disease communicated by it. His confidence in the non-contagiousness of plague was so great, that he was induced to make this bold and unjustifiable experiment."

We trust that Dr. Mott has regained the health he left the New World to seek.

DISLOCATION OF THE PATELLA OUTWARDS, WITH TORSION ON ITS AXIS.

By JOHN WATSON, M.D.

The following case is contained in our esteemed contemporary, the New York Journal of Medicine and Surgery, for October, 1839.

Case.—Henry Burton, a carman, of rather slender frame, and about thirty-five years of age, was on horseback in a crowd at the Park, August 21st, 1839, waiting to see the public reception of the Hon. Henry Clay. In the confusion of the crowd, another horseman backed his horse against him, and the animal's hip striking against Burton's right leg, injured him so severely that he was unable to say how, or in what direction he received the shock. He was carried immediately to a neighbouring hotel.

"I saw him soon after the accident, in connection with Dr. L. C. Ferris, Dr. Stearns of the northern part of the city, and Dr. Thomas F. Cock. The patient was complaining of severe pain; the leg was perfectly straight, but could be flexed about to an angle of 140 without increasing his suffering. The patella appeared to be slightly drawn up, and it was twisted upon its axis, presenting its outer edge, in a prominent hard line, in front of the knee: its inner edge was resting either in the groove between the condyles of the femur, upon which its posterior face should naturally play, or in the small indenture on the anterior face of the femur immediately above this groove. The anterior surface of the patella was turned inward, its posterior surface outward, and it rested nearly at right angles with its natural position. Its upper and lower attachments were both preserved, and could be distinctly felt; and a sort of band appeared to pass from its under, or, as it now lay, its outer face, inward to the deeper portion of the knee-joint. This band, as I conceived, was caused, either by the tension of the capsular ligament, or by the rupture of its edge, as it passes from the outer side of the patella. The position of the bone was so well marked that no one at all acquainted with the anatomy of the part, could mistake the nature of the accident."

With the leg extended, and the anterior muscles of the thigh forced downwards as much as possible, pressure was made upon the patella with the expectation of forcing down its prominent edge, and pushing the bone directly into its proper position. The effort was followed only by a severe increase of pain; the bone remained permanently fixed. Another attempt was made to cant its posterior edge inward, and to bring its anterior edge outward, without pressing it against the condyles of the femur, by forcing the head of a key against the posterior, now the outer face of the patella, (using this as a fulcrum,) and pressing the prominent edge of the bone towards the outer condyle. This manœuvre gave him no pain; but was as fruitless in its result as the other. At length the knee was forcibly bent, and immediately straightened again; and then, by canting the patella as before, and pushing it slightly downwards and inwards, it sprung, with a sudden snap, into its proper position. The reduction would, doubtless, have been facilitated by flexing the thigh strongly upon the pelvis. This, however, was not attempted, and the manipulation just described, answered every purpose.

As soon as the bone was replaced the pain ceased; and the patient thinking himself well again, stated that he could now walk as well as ever. A straight splint was applied behind the limb, so as to secure the joint, and the patient was sent home in a carriage, with directions to keep the knee at rest for a few days, and to apply to it an evaporating lotion.

After some observations on the imperfect notice of this accident, contained in works on surgery, Dr. Watson adds:—

"Though the position of the patella in this case was very different from that which it occupies in the subluxation outwards, yet it is easy to see how the latter accident might be resolved into this. For the patella in slipping outward, while passing over the outer edge of the pulley of the femur, must, from the very shape of the bones, have its outer edge tilted forward, and its inner edge, in consequence, thrown a trifle backward. Now, whilst in this position, and before the patella is allowed to reach fairly to the anterior face of the condyle, a sudden contraction of the rectus and vasti muscles must tend to bring the bone back again within the line of their action : so that instead of slipping completely over the condyle, it will either fall back into its natural position; or its inner edge being arrested, and the bone being thus prevented from moving inwards bodily, its outer edge must be drawn forwards towards the axis of the limb, and the accident I have described will be thus produced."

This case adds another to the list of those in which flexion of the knee contributed towards the reduction.

MR. DONOVAN ON A NEW CHEMICAL COMBINATION OF ARSENIC, MERCURY, AND IODINE; AND ON ITS MEDICINAL EMPLOYMENT.*

"Triturate," says Mr. Donovan, " 6.08 grains of finely levigated metallic arsenic, 15.38 grains of mercury, and 50 grains of iodine, with one drachm measure of alcohol, until the mass has become dry, and from being deep brown has become pale-red. Pour on eight ounces of distilled water; and after trituration for a few moments, transfer the whole to a flask; add half a drachm of hydriodic acid, prepared by the acidification of two grains of iodine, and boil for a few moments. When the solution is cold, if there be any deficiency of the original eight ounces, make it up exactly to that measure with distilled water. Finally filter.

The theory of this process need scarcely be adverted to. By the long-continued trituration of arsenic, mercury, iodine, and alcohol, the metals are converted into iodides, which combine. The mass by solution in water is converted into an hydriodate of arsenic and mercury. The quantities of the two metals are so adjusted, that, when converted into protoxides by decomposition of a portion of the water in which they are dissolved, there will be eight grains of protoxide of arsenic, and sixteen of protoxide of mercury. The quantity of water is such that each drachm measure of the solution will contain exactly one-eighth of a grain of protoxide of arsenic, and one-fourth of a grain of protoxide of mercury. I conceive that the quantity of mercury ought to be double that of the arsenic, in order to insure a slow and moderate, yet adequate mercurial action, along with the proper effect of the arsenic.

Of this *liquor hydriodatis arsenici et hydrargyri,* each drachm measure consists of—

Water, one drachm.
Protoxide of arsenic, one-eighth of a grain.
Protoxide of mercury, one-fourth of a grain.
Iodine, (converted into hydriodic acid,) four-fifths of a grain.

The colour of the solution is yellow, with a pale tinge of green: its taste is slightly styptic. It cannot be properly conjoined with tincture of opium, or with sulphate, muriate, or acetate of morphia; for all these produce immediate and copious precipitates in it. Hence if opiates are to be used during the exhibition of this arsenico-mercurial liquor, they must be taken at different periods of the day. Tincture of ginger produces no bad effect. The following formula is proper :—

---

* Dub. Journ. Nov. 1839.

℞. Liquoris Hydriodatis Arsenici et Hydrargyri drachmas duas.
Aquæ Distillatæ uncias tres cum semisse.
Syrupi Zinziberis semunciam. Misce.
Divide in haustus quatuor. Sumatur unus mane nocteque.

Thus one-sixteenth of a grain of protoxide of arsenic, and one-fourth of a grain of protoxide of mercury, would be taken in each dose, along with two-fifths of a grain of iodine, which being in the state of combined hydriodic acid, will be much diminished in energy of medical effect. This is no doubt the proper dose to begin the exhibition of arsenic with; but it will be very soon necessary to increase it.

The division into draughts is here necessary : first, to insure accuracy of the dose, so essential in the case of this active medicine: and next, to prevent injury to the ingredients by the use of a metallic spoon as a measure—the general way in which, unfortunately, the dose of a medicine is determined."

Mr. Donovan recommends this in certain cases in which its ingredients have been found serviceable, and it deserves a trial.

CASE OF ANEURYSM, CURED BY THE NEEDLE.

This case is quoted by our valued contemporary, the Medical Examiner, of Philadelphia,* from the Southern Medical and Surgical Journal, for July. It occurred to Mr. C. P. Richardson, of Savannah, Georgia.

Case.—"A. B., an Irish labourer, called at my office on the 27th of January last, with a tumor the size of a pigeon's egg, two inches above the wrist; the arm was much swollen and tense; its temperature greatly elevated, and, as may be supposed, he was labouring under great constitutional disturbance. The tumor was aneurismal; produced by a wound of the radial artery, an inch below the aneurism. The history which he gave me of the case was, that in some fight, three weeks before, he had been stabbed. At the time the wound bled considerably, but was stopped without surgical aid, and as the wound readily healed, no more was thought about it. In about a week afterwards, his arm became swollen from the elbow to the wrist, and very painful. The tumour then became obvious at the place I have mentioned. Its gradual increase, with the pain and tumefaction of his arm, induced him, two weeks afterwards, to seek advice. When I first saw him, his arm was much swollen with the blood that had infiltered throughout its whole cellular tissue; the heat and redness intense; his whole system participating in the irritation; and the aneurism tense and pulsating. It was at this time that I passed the needle horizontally through the tumour—using the precaution to arm the extremities of the needle with pieces of cork, that it might not escape or be caught by the roller with which I encircled the arm. Directions were then given to keep the arm constantly flexed —the bandage to be saturated with cold water—to take a large dose of salts, and to refrain from food. Previous to the passing of the needle, the pulsation of the tumour and the radial artery below the tumour, was distinctly felt. But shortly afterwards (ten minutes) the diastole of the artery was barely perceptible, whilst the pulsating of the tumour had altogether ceased. On the 30th, three days after the first dressing, the tumour was hard, and no impression could be made by pressure—the pulsation of the artery below the tumour was very plain—the pain, heat, and tumefaction of the arm had subsided, with no appearance of suppuration at the point at which the needle was introduced."

---

* July 20, 1839.

In a week, the coagula sloughed out, and the artery above the tumor, as far as could be ascertained, was obliterated. Two weeks perfected the cure, and the man was able to go to work. Had the needle been withdrawn three days after its introduction, or before any signs of suppuration had made their appearance, Mr. R. believes that no sloughing would have occurred.

If we are to judge by this case, the method must be hazardous.

SLOUGHING OF A BRACHIAL ANEURYSM.*

Mr. Mackie, a surgeon of Cupar Fife, relates this case in our northern contemporary.

Case.—" Mr. W. G. of East Aytoun, near Scarborough, was bled in the median basilic about the 20th October, 1835, and unfortunately the point of the lancet penetrated the brachial artery. From the blood flowing *per saltum* it was apprehended that such was the case, and, in order to effect a cure, compression was employed, but without any effect, as in three weeks, a pulsating tumour, of the size of a hen's egg, had formed at the elbow, bearing the usual characteristics of aneurism.

In the course of another fortnight the surface of the swelling began to ulcerate, and in a week further, hemorrhage occasionally occurred, which so weakened and alarmed the patient, that he at last consented to submit to the operation of tying the brachial artery above the tumour, which, accordingly, was performed by me, in presence of Mr. Smart and Dr. Alexander, of Scarborough.

The operation was performed in the usual manner, by cutting down upon the artery along the inner margin of the biceps muscle. On tightening the ligature, the tumour almost instantly became flaccid, and pulsation at the wrist entirely ceased. The whole arm was then enveloped in new flannel, and an opiate exhibited, which soon had the effect of inducing tranquil sleep.

Mr. G. complained at first of an uneasy prickly feeling in the affected member, and the arm was rather cooler than the other. Sensation was in nowise affected. After reaction had commenced there was a good deal both of constitutional and of local irritation. The affected limb then became much hotter than the sound one, and general throbbing in the whole arm was then felt, synchronous with the pulsations of the heart, and, in about ten days, the pulse was indistinctly felt at the wrist. About this time also the whole aneurismal tumour sloughed away, leaving underneath a clear healthy surface, which rapidly healed. In a fortnight the ligature came away with the dressing, and in three weeks from the date of the operation, the patient had entirely recovered.

Three years afterwards, I had an opportunity of examining the arm, which was equally strong with the other, and the pulsations of either radial artery quite distinct."

---

* Edinburgh Med. and Surg. Journ. July, 1839.

MISCELLANIES.

ITINERANT PHRENOLOGISTS.

Phrenology appears to be in danger from a bastard brood of her own, who ape the mountebank's trade, and sell characters in the most approved fortune-telling fashion. These gentry have quitted the lines upon the palm, and have taken to the bumps upon the head. What sort of market they are making of them let the Phrenological Journal tell.

"Their advertisements of advice and manipulation are now frequently seen in the London papers; and some of them make a regular (or rather an irregular) profession of itinerating from town to town to sell manipulations. These latter usually premise a course of phrenological lectures, 'first lecture gratis,' to advertise their skill and custom. They also procure eulogistic paragraphs in the newspapers read in the place, by disbursement of a proportionate share of the profits of their trade, which easily procures for them these paragraphs to any extent of eulogy. A host of persons have their curiosity aroused by these arts, and make haste to purchase the advice and manipulations of the phrenological mountebank. Each who gets his own head manipulated is certain to carry his paper-voucher to some of his acquaintances, and to recommend them to follow his example. Herein lies the 'whole art and mystery' of the profession. People must be pleased, and must be made to talk and recommend. The ready method of insuring these results, is to seize a few salient points of character, clearly shown on the head, which is an easy enough task to any one having only a very slight knowledge of Phrenology; and the rest of the sketch is filled up with flatteries, or is penned in terms of sufficient ambiguity for admitting of a construction acceptable to the vanity and self-pride of the party manipulated. The acquaintances of the poor egotist laugh in their sleeve at his credulous vanity, but of course gratify him by declaring the portrait to be a wonderful likeness, and he is fully and instantly convinced of 'the truth of Phrenology;' becoming also an especial trumpeter of the skill of the manipulator. This creditable mode of earning a living out of the ignorance and vanity of others is not confined to the male sex. We have seen advertisements of lectures on Phrenology by 'ladies,' who also manipulate, and give advice to young men touching marriage and other interesting subjects."

Of course, there cannot be a doubt that this sort of humbug is injurious to phrenology. It may cause the unthinking to laugh, but, amongst phrenologists, it cannot but make "the judicious grieve." The *practice* of phrenology is fraught with danger, and requires the greatest circumspection. If ignorant and unprincipled quacks make it an engine of downright imposture, all that is philosophical in it will be damaged in the world's esteem.

The editor of the Phrenological Journal goes on to say:—

"But the art is itself too profitable to be suppressed by the discountenance of the superior phrenologists. They might as well attempt to stop the sale of quack medicines, as to suppress the sale of phrenological flatteries. They may refuse to countenance or encourage itinerant dealers, which of course all reputable phrenologists will do; but the ignorant and the joke-loving, the credulous and the curious, will still flock to the mountebanks; and thus the disadvantages will continue to the uttermost, without the counterbalancing advantages. To ensure the latter, we think it would be expedient for the superior phrenologists to abstain from denouncing the custom *in toto;* since the more it is condemned by them, the lower will be the grade of those who do follow it; by wholesale condemnation, it will be forced downwards instead of upwards. But if it must and will be followed, of which we think there can be no doubt, it were better raised to dignity than depressed into degradation.

Who, then, should be the parties encouraged to practise the art? The subject is not yet sufficiently advanced, to constitute a profession by itself; though a succeeding generation may expect to see this done. Of the professions now followed, Phrenology is clearly the most intimately connected with that of medicine; and to the medical profession accordingly we should gladly see it resigned. Their professional education, their habits of life, and the friendly intimacy so frequently subsisting between families and their medical advisers, are all in favour of this; and if a few personally respectable and *settled* medical practitioners would allow themselves to be consulted phrenologically as well as medically, the chief objections to the custom would speedily disappear, and all the more intelligent and respectable portion of the public would learn to see the quacks and itinerants in their true colours. We now speak of the medical profession collectively; many individuals of it would prove incompetent to practise Phrenology, through lack of general attainments."

We are afraid that these manipulators will make phrenology look foolish,

A GREAT OPERATOR AND HIS OPERATIONS.*

The following is a sketch of a great operator on the Continent. It is evidently from the life.

"On June 26th last, I paid a visit to his clinical hospital, and saw him for the first time. He is somewhat above the middle height, and has a fine muscular development, especially of the arm and leg, to which he probably owes much of his dexterity. His crown is bald, hair inclining to grey, nose Roman, and whiskers worn across the cheek. He came into the theatre to perform two operations, dressed in a short linen jacket, reaching not quite to the hips, and with sleeves terminating above the elbow; the forearm was bare, and he had an oilcloth apron tied round him."

This gentleman, something between an hostler and a knacker, was the celebrated Langenbeck. The amputation he performed was done thus:—

"The patient was a youth, with scrofulous disease of the knee-joint. The preparations for the operation were exceedingly simple. Two basins with water and sponges on the floor; a few ligatures in the hand of one assistant, a saw, and three or four pairs of Amussat's and the common forceps, in the hands of others; a case of scalpels, and a case containing two amputating knives on a little side-table. The simplicity of the apparatus contrasted strongly with the pails and saw-dust, and glittering array of knives and scissors, and scalpels in extended file, flanked by tourniquets, bandages, strips of plaster, piles of rag, &c. witnessed in some English hospitals. The knife which Langenbeck uses is supposed to be peculiar to him, and in consequence has received his name; but its prototype may be seen in the hands of any butcher in England, being a short knife, rounded at the point. The blade and handle are each about four inches long; the former about 5-8ths in breadth. The artery being compressed by an assistant, Langenbeck took the knife just described in his hand, stepped back two steps—stood in a theatrical attitude, with the knife elevated above his head; then darted upon his patient, and made a deep gash on the outer part of the lower third of the thigh, cutting half away through to the bone; the knife describing a slight curve downwards and backwards; another application of the knife, slanting upwards, reached the bone. The same method was followed on the opposite side. The knife was then made to describe one or two turns round the bone; was changed for the saw; the muscles were retracted by the hand, and in about one minute from the commencement of the operation the limb was severed. The artery was sufficiently compressed to prevent a jet, but not enough to secure the patient from the loss of more blood than he ought to have suffered, considering his age and great debility. After tying the arteries, the thigh was rolled, and the face of the stump slightly covered with a piece of rag. The patient was then taken to his bed, and rag, wet with cold water, applied. In an hour or two, the lips of the flap were united by four or five sutures. Next day I found the roller removed, and nothing upon the stump except a strip of wet paper along the line of union. This mode of water-dressing has been practised by Professor Langenbeck for about thirty years. It is not so good as Liston's, because there is nothing to prevent the paper drying. To remedy this, a painter's brush and a basin of water stand close to the patient's bed, that the paper may be moistened from time to time."

---

* Med. Gaz. Aug. 24, 1839.

Here are some of the faults and all the advantages of a Continental operation. The disregard of the loss of blood, and the theatrical display are unquestionably faults—the simplicity, boldness, celerity, and dexterity as unquestionably advantages. Of the dexterity it may be said, as Gibbon said of personal beauty, that those who despise, are those who have not got it.

A Clinique.—" Next came a boy with a tumor in the upper part of the thigh. It was a doubtful case, and there was a long inquisition upon it. It is well known, that in the German cliniques there is a student in charge of each patient, who is examined by the professor, respecting the case, in the presence of the class. The questions put are those suggested by the anatomical and physiological relations of the part affected; and the professor rectifies, explains, or illustrates, the answers: in doing which, Langenbeck mingles a little wit, a good deal of theatrical gesticulation, and a good deal of extraneous matter, with much useful information. The wit, gesticulation, and foreign matter, are far from being useless, as they serve to impress the case upon the memory of the students, by exciting and keeping up their attention. Indeed, nothing is more dull and soporiferous than one of these cliniques conducted with legitimate professional gravity. Langenbeck is generally censured for his declamatory and showy manner, in which he strongly resembles Lisfranc; but he is in the right."

We believe that it will be admitted that the mass of medical students are not philosophers. The most effective lecturers and most successful teachers have found, we fancy, that a little *piquance* is necessary to make the dull matter go down. Science is well for the scientific, but the young gentlemen of a class like a little dash of fun in it. And provided that the science is not lost, the fun is not so reprehensible.

FRIGHTFUL STATE OF THE CLERGY.

The passage we are about to quote is really alarming. The Church *is* in danger now. We would advise all parsons of the good old style to beware of their evangelical brothers. Better stick to the "jolly full bottle," than join the snivelling tea-totallers.

It appears that in New England the clergy are in such a strait, that they have set a new quinsy a going. This is called the "*clergyman's sore-throat*," and is distressingly prevalent. A writer in the Boston Journal gives a harrowing account of the cloth.

" Half a century ago, most of our clergymen laboured some, particularly in the time of getting hay. Nearly all made their gardens and cut their wood; and several of them did considerable towards cultivating their own small farms. Their parochial duties were comparatively light; they seldom preaching more than two sermons a week; and from the composition of these they were frequently relieved by exchanges about once a month, or oftener during Summer. Most of them smoked tobacco, and some of them chewed. I recollect but one old minister who took snuff. They all drank cider daily, and when fatigued, generally took some flip or toddy. Very few of them, if any, however, were in the habit of drinking ardent spirit daily. That refreshing drink, small beer, made from malt, was considered nearly as necessary as bread in a family. Thus they frequently led very quiet and regular lives, without being exposed to intense excitement of mind, or over-fatigue of body. On the whole, they were probably as healthy, and lived as long, as most other classes of the community. My own father lacked only about two months of being eighty-eight years old, when he died.

Within the last twenty years, it would seem that clergymen, in about equal proportions, in our different denominations, have been breaking down by scores, and more particularly as respects their voice. I have been more familiar with these cases among the Methodists, Episcopalians, and Congregationalists, though I presume there is a proportional number among the Baptists.

There have been some very striking changes in the condition of most of the clergy in New England since the commencement of the present century. In the first place, their duties are much increased, public opinion requiring of them, in most places, much greater exertions than their predecessors commonly made. The religious meetings, benevolent associations, societies for promoting various objects, and new organizations of almost every description, are, perhaps, ten times as numerous as they were forty years ago. To say that four times as many sermons and addresses are now delivered before a given population, as was formerly the case, would be an estimate, probably, much below the fact. Besides these additional labours, the habits and manner of living of very many clergymen, are essentially changed. Few now have either leisure or land to enable them to attend to agriculture. Most of them have renounced tobacco. When they are fatigued, the slow process of self-restoration is adopted, instead of the expedient of more suddenly reviving the exhausted powers of the system, by the diffusible stimuli. Alcohol in all its forms is proscribed. Few use wine, and most even dispense with cider. Many families have dropped the use of coffee, some of tea, and a considerable number have materially lessened the quantity of animal food. Malt beer, that ancient, harmless beverage, is scarcely known."

We have decidedly no fancy for New England. Think of undergoing eight sermons a week, and trusting to the "slow process of self-restoration" for a recovery! No constitution could stand it.

Seriously, is it not something worse than laughable to see what religious enthusiasm leads to? It breaks down the body, wears out the mind, and affecting to render men wiser, happier, and better, it proscribes the bounties of Nature, and denounces that disposition to innocent enjoyment which a benevolent Creator has blessed us with. And what are the consequences? Physical infirmity, mental delusion, the gloomy home, the fanatic meeting, the bed of sickness, and the madhouse.

DISLOCATION OF THE HEAD OF THE RADIUS BACKWARDS.

SIR, Andover, Oct. 20th, 1839.

My attention has recently been called to the details of a case, in the 30th Vol. of the Medico-Chirurgical Review, of Dislocation of the Head of the Radius backward; which is justly commented upon as being exceedingly uncommon.

As every mite of information becomes valuable when disseminated in association with facts of the same class, I am induced to trouble you with the following similar case which came under my care some time since.

On the 10th of September, 1838, I was met (at some distance from the town), by a boy about twelve years of age, who requested me to examine his left arm, which he said he thought was broken in a fall.

Upon doing so I found the head of the radius projecting backwards, and so fixed as to render the fore-arm nearly motionless. Having no one to assist me; by grasping the elbow with the left hand, pressing with the fingers firmly upon the head of the displaced bone, and, with the right, firmly and steadily supinating the hand, making at the same time moderate extension, the dislocation was immediately and easily reduced. The accident was followed by but little inflammation, which readily subsided in the course of a few days, by the use of evaporating lotions, &c.

The reduction in this case was, no doubt, the more readily effected, in consequence of the youth of the patient, and the shortness of the time which had elapsed since the accident, being not more than a few minutes.

I am, Sir,
Your obedient servant,
OCTAVIUS HAMMOND.

To the Editor of the
Medico-Chirurgical Review.

SUPPLY OF SUBJECTS FOR DISSECTION.

He must be a facetious man who can talk of the present supply of subjects. It is an algebraical quantity—something minus nothing. The Anatomical Bill has worked, or has been worked charmingly. Each year since its introduction the number of subjects has decreased, until it has reached what we may hope to be a minimum.

The Inspector of Anatomy has been for some time a procurator of bodies, and a distributor of them. For this he is paid pretty handsomely. What have been the fruits of his procuratorship, let the present dearth testify—what the consequences of his distributorship, it is not so easy to divine. The system is radically bad which gives him either office. A government functionary is the worst person in the world to send to a parish board. He wears the odious garb of authority, and parish patriotism is in arms against him. If this be true of government functionaries in general, how true it must be of the existing one in particular. The universally expressed opinion of the teachers, their vote of censure, the representations to the Home-office, and the fruits of Dr. Somerville's labours, speak a language which cannot be misunderstood, and ought not to be disregarded by the government. Let the Inspector be what the Act intended—an inspector and no more. Dr. Somerville must be squeezed to his original proportions.

The business has become so tangled that it is difficult to know what to do. But the best plan is to appoint the College of Surgeons to the post of obtaining and of distributing bodies. It is a farce to talk of the teachers managing that matter themselves. They have tried and failed. Then who are to do it? We know of none so adapted to the office as the Council of the College. Some parties affect to dread abuse and jobbing. But we would observe that jobbing and abuses and intrigues may be found amongst anatomical teachers, as well as in the College, and publicity is the great safeguard against them any where. Let every thing be done in the most open manner, let every check be adopted against unfairness, and we do not fear the experiment of resorting to the College.

The evil is a crying one. The pupils of the London Schools have a right to *demand* the adoption of a remedy. If the malcontents towards the proposed one have a better in their pockets let them bring it out. If they have not, let the students be informed who it is that stands in the way of a supply. If there is not soon a change for the better we shall lay the whole case before our readers and probe its evils to the bottom.

New Regulations of the College of Surgeons.

The palmy days of the London Schools are gone. The competition between themselves, and the growing consequence of the Provincial Schools have already affected the classes, and will affect them more,—

> Which Hebrew priests the more unkindly brook,
> Because the fleece accompanies the flock.

The new Regulations of the College will probably set the seal to the destruction of the private schools, and to the damage of the hospital schools. Not but what the College have been right. It would have been suicidal on its part to hold out against the widely expressed and still more widely felt desire of the Provincial surgeons. Whether the result will be advantageous to the science we will not venture to predict. Whatever renders teaching less profitable will withdraw the best men from it. So far, the result will not be advantageous—but the pupils *may* gain in morals, and *will* gain in purse. How far the latter will operate for the benefit of the profession, let those who already complain of its being overstocked tell us. For our own part we do not hesitate to say that any regulation which operates as a bonus on the entrance of members into the profession, is an evil, and will be felt one.

Regulations of the Council respecting the professional education of candidates for the diploma.

I. Candidates will be required, in addition to a Certificate of being not less than twenty-one years of age, to bring proof—

1. Of having been engaged in the acquirement of professional knowledge during a period of not less than four years; six months of which shall have been occupied in the study of Practical Pharmacy, six months by attendance on the practice of physic, and the remainder of the period on the practice of surgery, at a recognised hospital or hospitals in the united kingdom:—three months being allowed for a vacation in each year.
2. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections, during three anatomical seasons or sessions;*—and of having attended at least two courses of lectures on the principles and practice of surgery, delivered in two distinct periods or seasons, each course comprising not less than 70 lectures:—And one course of not fewer than 70 lectures on each of the following subjects, viz. the practice of physic—chemistry—materia medica—and midwifery, with practical instructions;

II. Members and licentiates in surgery of any legally constituted college of surgeons in the united kingdom, and graduates in surgery of any university requiring residence to obtain degrees, will be admitted for examination on producing their diploma, license, or degree, together with proofs of being 21 years of age, and of having been occupied at least four years in the acquirement of professional knowledge.

---

* An anatomical season is understood to extend from October to April inclusive, and to comprise at least 140 lectures on anatomy and physiology, occupying not less than one hour each, given on separate days; and at least 100 demonstrations of the like duration, given in a similar manner; exclusive of dissections, of which distinct certificates are required.

III. Graduates in medicine of any legally constituted college or university requiring residence to obtain degrees, will be admitted for examination, on adducing, together with their diploma or degree, proof of having completed the anatomical and surgical education required by the foregoing regulations.

IV. Certificates will not be recognised from any hospital unless the surgeons thereto be one of the legally constituted colleges of surgeons in the united kingdom; nor from any school of medicine or midwifery, unless the respective teachers be members of some legally constituted college of physicians or surgeons in the united kingdom, nor from any school of anatomy or surgery in England, unless the respective teachers be members of some legally constituted college of physicians or surgeons in the united kingdom, and have undergone a second or special examination on those branches of science, according to the ordinances of this college relating thereto.

V. Certificates will not be received on more than one branch of science from one and the same lecturer; but anatomy and physiology—demonstrations and dissections—will be respectively considered as one branch of science.

N.B. In the certificates of attendance on hospital practice and on lectures, it is required that the dates of commencement and termination may be inserted in words at length.

Blank forms of the required certificates may be obtained on application to the secretary, to whom they must be delivered, properly filled up, ten days before the candidate can be admitted to examination; and all such certificates are retained at the college.

By order of the council,
EDMUND BELFOUR, *Sec.*

August 20th, 1839.

EXTRA-LIMITES.

AN INTRODUCTORY LECTURE,

DELIVERED TO THE

ANATOMICAL CLASS

OF

SAINT GEORGE'S HOSPITAL,

IN THE

THEATRE IN KINNERTON STREET,

On the 1*st of October*, 1839.

BY HENRY JAMES JOHNSON.*

You have heard, Gentlemen, from your able Lecturer on Surgery, the nature and the objects of your science. The Temple of Medicine has been built up before you, and you have seen that, in its various halls, as various lessons will be taught. Within this Theatre, the delight, or labour, of study has commenced, and its primary facts, its elementary characters will shortly be displayed before you.

---

* Perhaps an apology is necessary for printing so flimsy a sketch of the History of Anatomy as this. But some of the friends, and several of the pupils who honoured me with their presence at the delivery of the Lecture, having intimated a desire for its publication, I have complied with their flattering, and, I fear, their partial wish. My only hope is, that the same indulgence which overlooked its faults in the Theatre, may wait upon it in the press.

Censoriousness may possibly be disarmed by the admission, that the Author makes no pretension to the character of a historian. He merely aims at conveying a general idea of the progress of Anatomical Science, and exhibiting the principal phases of its growth. Those who are accustomed to listen to *introductory* lectures, or to *give* them, will confess that recondite speculations would be out of place, and will make most allowance for the defects which must be obvious in the present. My *readers* will be pleased to find that the Lecture has been compressed to its actual small proportions; my *hearers* will, perhaps, complain, that an equal kindness was not shewn to them.

Here you are to investigate the materials you are made of—the office of each organ—the attributes of every fibre—their subtle combinations—their admirable harmonies. Here you are to take the composite machine—to dissect—to analyse it—and to solve, or try to solve, the difficult physical, impossible moral problem—to know yourselves.

To a reflecting being, his own material constitution must, from the first, have been a subject of interest. But, in the earlier ages, superstition blindly, yet humanely, opposing the ferocious spirit of the times, fenced in with a false sanctity the bodies of the deceased. Denied the rites of sepulture, the unhappy ghost wandered around the spot where his dishonoured corse had lain, barred alike the privileges of the living *and* the dead.

At such an epoch, human dissections would draw down the vengeance of gods and men. Diseases were inflicted, and their cure must be effected by the Deity—his servant was the priest—the priest was the physician. Thirty-five centuries were already gone by, when Darius, the son of Hydaspes, received a simple luxation of the foot. He travelled to consult the skill of Egypt, renowned in art, at her acmé of refinement, the cradle of the sciences and gods of Greece. In the land of Apis, the deified discoverer of medicine, the dislocation of Darius was neither reduced nor understood.

Thirsting for a knowledge of the composition of animals, Pythagoras roamed over the known world. His pupil Empedocles treasured the doctrines of his master, and instructed his hearers in anatomy. He taught with confidence that "two parts of water, one of fire, and as much of earth," were the simple ingredients of the nerves, whose extremities, cooled and hardened by the air, formed, of course, the nails!

The first great revolution in medicine was at hand, for, after the lapse of a few olympiads, Hippocrates observed and wrote. The gods were the source of disease no more—the priests and the oracles ceased to prescribe—

> No voice, nor hideous hum
> Sounds thro' the arched roof, with strains deceiving;
> Apollo, from his shrine,
> Can no more divine,
> With hollow shriek, the steep of Delphos leaving.

Bacon was anticipated, for induction was applied to physic—and the genius of Hippocrates stamped it a science. You would naturally hope that the "Father of Medicine" was also an anatomist. He suspended, indeed, a skeleton of brass in the Temple of Delphi, a present to posterity and to the god. But a knowledge of the bones may be attained without dissection—it is certain that Hippocrates confounded the tendons and the nerves—and his physiological information may be guessed from the following sample:—The brain, he tells us, is a large sponge, whose appropriate office is to soak up the pituita, which distils, in chilly weather, from the nose!

Another century gave birth to a great captain, and to a greater man—to Alexander and to Aristotle. The soldier supplied the purse of the philosopher, and £200,000, and innumerable agents procured for him animals from every clime.

Of the Stagyrite, it might be said, in no sarcastic sense:—

Schœnobates, augur, medicus, magus, omnia novit.

His lessons have survived the admiration or neglect of ages, and are singularly fortified by modern zoology. But the power of his master failed, perhaps, to obtain for him the dissection of a single felon; for, Aristotle informs us that the nerves and the ligaments spring from the heart—that the brain is a mass of earth and water, without blood and without sensation—and that its only office is to balance and moderate the fire in the bosom!

Among the generals of Alexander, learning will ever honour Ptolemy Soter. We cannot feel surprise that the man who had listened to Aristotle, should found the Alexandrian Library. But the library was itself attached to the Musæum, and that was adorned by Herophilus. His name should be embalmed in the memory of anatomists, for he was the originator of human dissections. The popular hatred then, as since, pursued the benefactor of his species, and Herophilus was branded by terror and fanaticism with the guilt of dissecting six hundred criminals alive. The accusation, though launched by a Father of the Church, may be safely discredited by us, who remember that Medea, the inventor of warm baths, was reproached with boiling her patients in a cauldron. Among the merits of Herophilus, the discovery of the nerves was not the least. Modern description still appeals to him—and such was the enthusiasm of an earlier age, that Fallopius laid it down as a certain maxim—that, to contradict Herophilus on a question of anatomy was as impious as to contradict the Gospel!

They who have read the page of history but carelessly, may suppose that since dissections were begun, the progress of anatomy was rapid. But it shared the fate of philosophy, and drooped amid the mushroom crop of empirics and of sophists that sprang from the ruins of liberty and of the schools. The shadow of the Roman eagle overspread the earth, and science withered beneath its wing.

The severe investigations of Herophilus were shunned,—his memory was oppressed by ignorance and calumny—and religion prescribed laws to physiology once more. The Polytheism of Italy adored Ossipaga, the Goddess who regulated the growth of bones—and Carna, whose peculiar care was the bowels. Her most acceptable offerings were bean broth and bacon—the beau idéal of wholesomeness in ancient diet—the holiday fare of a Roman God!

The wheel of fortune had performed it's revolution—superstition again darkened it's zenith—anatomy was once more dishonored and denounced—and Asclepiades taught the compendious doctrine, that the structure, both of the body and the soul, consisted wholly of invisible particles and imperceptible pores!

But the reign of Trajan brought other blessings, as well as victory, and the conqueror of Dacia was the master of Galen. By a singular felicity, the restorer of anatomy flourished under three of the best of the Cæsars, and his labours were prosecuted amidst the repose which crowned the virtues of the Antonines.

Those labours were far from trivial. In the books of "Anatomical Administrations" which have been saved, may be discerned the germ of the modern discoveries in the functions of the nerves. I cannot resist one brief quotation, shewing, as it does, the influence of anatomical studies on a cultivated mind. The Pagan dissector breaks into this passionate address to Jove :—

"In writing these books, I compose a true and real hymn to that awful Being who made us all. And, in my opinion, true religion consists, not so much in costly sacrifices and fragrant perfumes offered on His altars, as in a thorough conviction in our own minds, and an endeavour to produce a similar conviction in the minds of others, of His unerring wisdom, His resistless power, and His all-pervading goodness."

However lax the discipline of Rome—however sunk the majesty of Jove—the infidelity of her philosophers (if she could be said to possess philosophy) was unable to vanquish the prejudices of paganism, fortified by the natural feelings of humanity. Even Galen, the great anatomist of antiquity, apologises for dissections of men, and points to accidents of time and war, as affording blameless opportunities. Where slavery prevailed in its most hideous form, where the Gladiators' schools, and the shambles of the amphitheatre exhibited their thousands—

"Butchered to make a Roman Holiday,"

the scalpel was seldom and stealthily used. Galen directs the student of anatomy to repair to Alexandria for the study of the skeleton—to visit the sepulchre, where bones may lie exposed—and to profit by the labours of the vultures on the bodies of executed malefactors.

I linger on the page of Galen, for scarcely had the urn received his ashes, when the volume of anatomical discovery was shut for thirteen centuries. The barbarians poured their swarms upon the empire—its mercenary bands turned their swords against each other—and the struggle between christianity and paganism ended in the growth of the papal power. Its pretensions were incompatible with reason and reason was proscribed. What the sophists had begun the priests concluded—the disputatious dogmatism of the schools was supplanted by the cruel dogmatism of the cloister—and a black and bloody superstition scowled upon the Christian West.

If the Church monopolised the little learning of the times, and preserved the embers of science from expiring, it was not for the love of knowledge, but for the liking of its profits. Men's intellects, darkened by ignorance, were dazzled and easily ruled by the priesthood, and it appropriated, as natural rights, the professions of physic and of law. How law was debased, let history tell—the degradation of physic was soon complete. Anatomy was almost held accursed, and the little that was taught or known was known and taught upon tradition. Medicine was a thing of herbs and charms—and surgery was consigned to the menials of the monastery, for the priest might draw no blood.

The Patriarchs of Constantinople envied, but could not rival the Bishops of Rome, and a faint image of liberty reigned in the schools of the East. Yet the subtle genius of the Greeks was averse from simple observation, and words, not things, were the subjects of their speculations. The sects were equal in number to the teachers,—the corrupted text of Galen the idola specus to which they bowed—and the only point on which all agreed, was *not* to study nature. Need I say that anatomy languished?

In the gloom of the seventh century, Mahomet raised the standard of the crescent, and, in less than thirty years the Koran and the small-pox prevailed from Mecca to Gibraltar. The sack of Alexandria by the Caliph Omar scattered its manuscript treasures, and the sons of Ishmael read, for the first time, the aphorisms of Hippocrates. The lapse of six hundred years and the virulence of a bishop maligned the Caliph's memory with the burning of the great library, because, "if it contained what the Koran did not, it was impious—and if it held only what the Koran did, it was unnecessary." Yet Mahomet, himself, was an empirical physician, and the liberal spirit of the Saracens refuted the malicious libel.

While Learning was banished from the West, she was harboured by those generous barbarians. The mind, however, of the Asiatics is more lively than solid, and has proved too imaginative to succeed in natural science. They admired, and imitated the speculative Greeks, and transcribed and glossed each ancient author. Rhazes and Avicenna, the Galens of their day, and long the worshipped luminaries of Europe contributed a little to medicine and to surgery—to anatomy next to nothing.

It was among the Saracens, that Alchemy arose. Ordinary phenomena appeared unworthy the notice of philosophy, and the marvellous alone was deemed a fit object of pursuit. But chemistry was rocked in the cradle of delusion, and this powerful agent of human improvement had its birth in fraud and folly. The key was found to the casket of nature, and Roger Bacon was the first to lift the lid. The efforts of bigotry and interest never after closed it, and the giant form of knowledge slowly issued, like the genius from the box of the Arab fisherman, till it stood before the world in all its majesty.

Great as have been the services of chemistry to medicine, it lent no immediate impulse to anatomy. Basil Valentine, however, and even Paracelsus, directed men's minds to the study of Nature, broke the bonds of authority and the dogmas of the schools, and laid open the new world of philosophical discovery, which adventurous observation might make its own.

The fifteenth century is conspicuous in the annals of our race. The art of printing gave immortality to knowledge, and the reformation struck the chains of superstition from the soul. The work which Roger Bacon had begun was carried on by Luther, and the reason, to which religious disputants appealed, was sharpened for the investigations of science. They were keenly followed, and the succeeding age saw bolder strides in anatomy and physiology than the fifty-six centuries that had gone before. Dissections were now notoriously practised—individual facts were observed and promulgated—and the agitation in the world of anatomy boded the coming revolution.

In the year 1531, a Spanish physician, by name Servetus, used these remarkable words:—

"The passage of the blood from the right to the left ventricle does not take place across the middle septum, as persons have generally imagined; it depends on a more singular structure. In the long winding of the lungs this subtle blood is agitated and prepared by the action of the viscus, and gains a yellow colour. From the pulmonary artery it passes into the pulmonary veins, where it becomes mingled with the air that has entered the lungs, and loses its fuliginous excrements. Lastly, it enters the left ventricle, which attracts it in its diastole."

The problem of the circulation was almost solved, reason alone might have worked it out, and we wonder how it escaped discovery. Yet seventy years separated Servetus from Harvey, and that long period was adorned by the talents and enriched by the observations of Vesalius, and Columbus, Eustachius, Varolius, and Ingrassias.

The story of Vesalius is so tragical as to claim a passing notice. A native of Brussels, he rose to be chief physician to Charles the Fifth, and to Philip the Second, his bigot son. His love of anatomy knew no bounds, and he was denounced by the priests and the Galenists as the dissector of a living person. The Inquisition was induced by Philip to spare his life, but condemned him to a pilgrimage to the Holy Land. The Senate of Venice invited his return to the professor's chair in Padua, but the anatomist was shipwrecked on the Isle of Zante, and perished miserably of cold and hunger. Vesalius, Roger Bacon, Galileo, paid, in their turns, the penalty of a genius that outran it's age, and sank under the iron arm of jealous superstition.

The plates of Vesalius are admirable for the period, and his descriptions generally accurate and elegant. A later anatomist (his name escapes me) on finding that some parts did not quite coincide with Vesalius' account of them, explained the contradiction by the ingenious remark, that "the structure of the body must certainly have changed since Vesalius wrote."

In 1563, Fabricius was appointed to that chair of Padua, which the unhappy Vesalius had been called to fill. His eloquence attracted students from all parts of Europe, and a young Englishman eagerly gazed, as he demonstrated the valves of the veins. The lesson was never forgotten —reflection suggested, experiment confirmed the brilliant conclusion —the secret of ages was finally disclosed—and the name of Harvey is imperishably linked with the immortal doctrine of the circulation of the blood.

Before the student of the present day has completed one course of anatomical lectures, he wonders at the dulness or perversity of intellect, which could fail to recognise so obvious a truth. He can scarcely be convinced that men of deep research and of powerful minds could seriously believe, in opposition to the evidence of sense, that the arteries contained only vital spirits—that the liver was the centre of the venous system—and that the blood went out in the veins by day and returned again by night. Yet such was their conviction, and it teaches us a truth which we never should lose sight of—how imperfect and how little trust-worthy the strongest faculties are.

The "circulation of the blood" was like the fulcrum that Archimedes sighed for. From it the world of physiology was stirred. The ancient hypotheses were shivered in the dust, and, in their place, uprose in natural order, the facts of modern observation.

The success of Harvey, like that of Columbus, tempted thousands to embark on the ocean of discovery, and the inductive method, the gift of Bacon, supplied them with the compass. The followers of the physiologist, as of the navigator, oppress by their numbers and their merits, and I am constrained to dwell upon those alone whose names are signalised by epochs.

Bologna and the Hague were adorned at the same time by Malpighi and by Ruysch. The doctrines of the Italian on the composition of the glands, though resting on the powers of the microscope, submitted to the superior fortune and wonderful injections of his rival. The latter was indebted to De Graaf and Swammerdam for the art which rendered him so famous, and which, since his time, has done such good service to anatomy. But much of his success was probably fallacious—other methods of investigation have corrected the defects and errors of injection—and the present day has made tardy atonement to the greater accuracy of Malpighi.

Injustice, even, would blush to pass Haller by. Of great capacity, of untiring industry, devoting himself with equal ardour and good fortune to classics and to botany, to poetry and to anatomy, Germany regards him as a modulator of her tongue, medicine reveres him as the first of physiologists. To his golden volumes, the preceptor and the pupil may still go back, and both will reap instruction from their philosophic spirit of experiment and reasoning.

A young man attracted the notice of Dessault by his lively talent and precocious knowledge. The surgeon of the Hôtel Dieu had discovered, his generosity fostered the brilliant, the imaginative Bichât. His was the soul that

> "Frets the pigmy body to decay,"

for at the age of 31, he was lost to science and his country. Short as was his career,. it endured long enough to revolutionise medicine. He conceived, or borrowed, the felicitous idea, that the different textures which compose the body have special laws of health and of disease, and general anatomy started almost perfect from his hands.

The structure and the functions of the human body had been hitherto almost exclusively studied. If Aristotle examined the composition of animals, he was encumbered by a false philosophy, and he had not the assistance of those great discoveries which I have feebly sketched. But the time was come for extending the inductive method to the anatomy of all creatures, and Cuvier and Hunter made themselves imperishable names.

On Hunter, it would be idle in me to dwell. His museum may be daily visited by all, and beneath his bust might fitly be inscribed the epitaph on Wren:—

> "Si velis monumentum, circumspice."

His writings, alas, are an imperfect record of what he knew and of what he did; and when time has corroded, as, in spite of our solicitude, it must, the great conceptions realised in the museum, posterity will question the justice of our admiration. The learning he despised is already taking vengeance on his memory, and has wreathed her choicest laurels for his rival's brow.

The glowing page of Cuvier contrasts with the obscure and frigid style of Hunter. Its happy periods grace its noble images, and the inspirations of genius wear their most enchanting form. The minute details are only surpassed by the splendid generalizations, and both are tinctured by that sound philosophy, too frequently forgot by the lively temper of his country.

From the anatomy of animals to their physiology cannot be considered a step. The dissections of Cuvier and Hunter produced, ex necessitate, the researches of St. Hilaire, Blainville, Tiedemann, and Müller. Man is no longer, in the eye of the anatomist, that microcosm, ignorance and vanity supposed him. In structure and in functions he forms a step in the great natural ladder, and neither his position nor his office is intelligible by looking solely at himself.

His composite organism is made up of parts, some more, some less developed in him, than in beings lower in the scale, and problems of its nature and its properties find their analogical or direct solution in some other animals. Human physiology can no longer be studied, nor understood apart; but, merged in general or comparative physiology, it takes a wider range, asserts a bolder aim, and submits the whole organic world to its calculus.

A review of the progress of anatomy will shew that it has shared the fortunes of the other great departments of philosophy. Feeble amidst the ignorance of early times—repressed by a timid, and prostituted to its purposes by a base bigotry—lost in the darkness of the middle ages—it revived with learning's revival. Yet through all reverses, it contained within itself the elements of triumph, because the elements of truth, and sprang up most vigorous when destruction was most imminent. So certain it is that the battle of science, like that of freedom,

once begun,
Bequeathed, like it, from sire to son,
Though baffled oft, is ever won.

I need scarcely advert to the spirit with which anatomy is to be studied. We must bring to it that ingenuous temper of mind, which natural science demands, and which Harvey, and Haller, and Cuvier, and Hunter brought. A temper of mind, whose generous aim is philosophic truth, which it seeks at any cost of consecrated authority, of cherished belief, and of those allurements of hypothesis, which are so seductive to us all.

To divest itself of every prejudice, whether of opinion or the senses, and to accept all conclusions, however startling, and however repugnant, which follow legitimately from data well-observed, is its constant object and its great prerogative. And those amongst you who pursue such noble ends by such worthy means will reap, I cannot doubt, the rich rewards of discovery and fame, for the volume of nature has been far from read, and many a bright page is yet to be scanned by her ripe and diligent student.

Your fatigue, gentlemen, is evidence how unworthy I have proved myself of the task I undertook. Langour would not have waited on the animated recital of an abler historian; but, lingering with him on the slow progress of science in former days, with him you would exult at its triumph in your own. The history of human knowledge is as instructive as delightful, and no liberal mind would willingly be ignorant of its strange and chequered course. The past, too, has its lessons for the future; and it is the god-like privilege of intellect to look towards both. The experience of a single life is an unit in the series of ages, and its errors are corrected, its truths confirmed by the undying experience of centuries.

DR. FERGUSSON ON YELLOW FEVER.

To the Editor of the Medico-Chirurgical Review.

Sir,—My attention having been called to a late number of the Medical Gazette, wherein the infectious nature of tropical yellow fever is advocated in a well-written paper by Mr. William Fergusson, Surgeon of the Royal African Corps, I feel myself called upon, in vindication of the pledge I recorded when I last wrote upon the subject, in reply to Dr. Fraser of Demerara, now to examine the facts he adduces and the arguments he brings forward in their support. I feel it the more incumbent upon me to do this with as little delay as possible, because Mr. Fergusson is known to be an officer of great professional merit, who has much distinguished himself by useful services on the coast of Africa, and whose opinions, founded on much experience and submitted with diffidence and candour, cannot fail, if allowed to pass unquestioned, to have great weight not only in the medical world, but amongst all who are interested (and who is not?) in ascertaining the true nature of the disease.

Mr. Fergusson at once and unequivocally admits that it never was imported into Sierra Leona, the fountain spring and head-quarters of yellow fever—that there it always arises spontaneously, being truly endemic when it does come, and never introduced or sporadic; but that in the other settlements of the same station it never has been seen unless when imported from Sierra Leona, and that in the majority of them it never has been seen at all! This is a strange and a bold assertion, and before it can be admitted as a medical truth demands the strictest examination. Another of his propositions seems to be equally extraordinary—that the disease after being imported often requires an interval from 28 to 33 days before it can be made to shew itself amongst the inhabitants of its new field of operation. This is so contrary to all the known laws of incubation in febrile diseases, or indeed in any other diseases, with the exception of hydrophobia, that it cannot be received without the strictest scrutiny, and indeed is negatived by himself in the instances of Monsieur Imbert and others who were supposed to have imported it, at the shortest contact, into the Island of Goree; but let us discuss if we can the first of Mr. Fergusson's positions before we enter upon the second.

Yellow fever is acknowledged always to spring spontaneously at Sierra Leona; then why may it not equally so arise at Gambia, Goree and Ascension, when circumstances favour the development of the disease. Mr. Fergusson surely will not contend that Sierra Leona can possess an exclusive patent for the generation of yellow fever, and instead of this impossible incubation, would it not have been more reasonable to have allowed that the same causes which had produced the disease there, had, in the course of a month, been ripening into such accumulation as favoured its explosion at the other settlements of the same coast.

The last of these, from the fact of the Ban frigate touching there, and landing sick of yellow fever from Sierra Leona in the year 1823, soon after which the disease spread amongst the garrison, has ever presented the most difficult stumbling-block to the anti-contagionist; but from what we have seen of the leeward bases of hills in every part of the West Indies, or indeed of their bases whether to windward or leeward, we know that, what with drainage from the higher land and the difficulty or total absence of perflation, their lower levels are ever in a state to become the most fertile fields of accumulated malaria. To this Ascension, nearer to the equator by several degrees than Sierra Leona itself, can be no exception, and on the last visitation of yellow fever in that island (1838), the well-known causes of the worst tropical fevers, viz: the great collection and rapid drying of waters, had become accumulated in such abundance as to account most amply for any invasion of malarious fever, such as that of Sierra Leona itself, without having recourse to importation. The first case—that of the fever breaking out soon after the Ban landing the sick of it in the island, is a much stronger one: but one swallow does not make a summer—nor can a single instance ever be taken for proof. An interval of fifteen years elapsed between the arrival of the Ban and the second outbreak of the disease, and in that long period did no vessels from the head-quarter station ever touch there with fever on board, and did nothing of the kind, no sporadic instances, ever occur but on the above-mentioned occasions? I know not whether they have or not, but I know that, to constitute an important contagion, the disease must unerringly ensue upon the introduction—if it fails as often, or oftener than it hits, then must there reside in the locality itself a cause stronger than the arrival of infected ships, which independent of any such aids will, according to laws of its own, cause the disease to explode under particular circumstances of atmosphere and locality, as yet beyond our ken, and leave us in wonder and dismay.

I have never been in Western Africa, but I should think Gambia or any other settlement on the banks of one of its great pestiferous rivers must come under the same description as Sierra Leona; and Goree, when sufficiently peopled by Europeans to give scope to the disease, may be classed under the same head. This I shall now endeavour to prove, more especially in regard to the first of these, from the analogy of New Orleans in North America. Like the settlement of Gambia it is founded on the banks of a magnificent river amidst the alluvion of its mighty current, with the difference of its containing a crowded white population. For nine months in the year it may be called a healthy habitation, but when the heat of autumn ascends to that of the tropics, yellow fever appears with the regularity of the equinox and departs as regularly when it descends in the scale of the thermometer on the first approach of the winter rains. Being the greatest emporium of the Southern States, ships keep arriving from every part of the world at New Orleans, without regard to the state of its health, where they often lose their crews, but that is all—they depart with fresh men East, West, South, and North, and I never heard even the strongest contagionists assert that yellow fever was imported anywhere from New Orleans. The fact is notoriously otherwise. Her steam-packets meanwhile ascend the stream by hundreds, laden with fugitives from the malarious pestilence to the cooler localities above. When ill with the disease they vomit on the decks as they go along, but whether they live or die they neither infect their fellow passengers nor introduce the disease into the settlements of refuge. Now can Mr. Fergusson, when he reflects upon the fact of yellow fever being in the instance just quoted purely a disease of season and locality, really believe that it must be an imported plague when it appears on the coast of Africa always under the same circumstances of climate as the autumnal season of New Orleans? but I will give him another instance. At Vera Cruz, the nearest great town to New Orleans, but within the tropic (latitude 19°) it is ever at home to the European stranger provided he stays all night; but should he chance to move the smallest distance into the interior, yellow Jack, as our sailors call the disease, although prepared to fold him within his closest embrace had he caught him in the dark shades of the evening, always makes his bow at the city gates. Nothing can induce him to give convoy further, nor attend the stranger a foot of his way. Gambia and Goree, when we look at the map, may be called geographically, neighbouring stations to Sierra Leona, and when the climate is the same and the locality is either naturally, as on the alluvial banks of the river, or through the circumstances of season, made favourable, need we be surprised that when it prevails in the last, where, in Mr. Fergusson's own words it is "ever the undoubted product of the colony itself," it should also pervade the latter without the intervention of ships carrying the disease? Many, indeed I may say all, colonists will strive to remove the reproach of pestilence from their own shores. They will greedily imbibe the grossest delusions—swallow and propagate the idlest tales of importation, and shut their eyes to the most obvious facts of native origin, for as long as they can make the favourite belief subservient to the character and interests of the colony, consequently to their own. At Sierra Leona when the pestilence was springing up rife from under their feet, and before their eyes, Mr. Fergusson tells us they strove hard to discover the ship that brought it to them—but it would not do. Gambia, however, thinly peopled by Europeans, more remote, and less under observation, had more of its own way and took the consolation of discovering the importers in the persons of Mons. Imbert and his friend. The flattering unction could not be resisted, and I regret to perceive it has pervaded even the enquiring mind of Mr. Fergusson. That all this at Gambia must have been a delusion, and that yellow fever in every situation must at all times have been a disease of high temperature and locality alone, let us now seek for what may be called European proofs nearer home, and better suited to the strictest investigation; and here I will take my demonstrations from the evidence of Sir William Pym himself, at Gibraltar, by far the most consistent and ablest advocate on the contagion side of the question. In his celebrated work on the Bulam fever, which has ever since so mischievously influenced all the health departments, indeed I may say the government of the country, at p. 51, he thus tells us how he arrested the progress of a yellow fever:—

"I directed a sufficient number of tents to be pitched outside the gates of the garrison, on the neutral ground, with a proportion of bedding, &c. and in the middle of the night without any previous information being communicated to the inhabitants, a strong guard with a sufficient number of carts proceeded to the infected district and conveyed the different individuals of the infected families *sick and well, with their baggage,* to the encampment which was established as a lazaret and kept in quarantine. I placed the sick in separate tents and appointed persons to attend them who had had the disease at a former period. A cordon of troops was also established round the infected part of the south district, which was kept in quarantine for fourteen days; proper persons were also appointed to superintend the purification of the houses, furniture, &c. and to report the slightest appearance of disease among any of the inhabitants—who were also paraded and inspected daily by one of the hospital staff."

Now can any thing be more evident, from this quotation, than that the fever was one strictly of locality in the town of Gibraltar, and that even with the aids of the diseased bodies, and all their baggage, it could not be implanted at the shortest distance beyond the gates of the fortress; for had the disease been small-pox or any other true contagion, it might, in the fomites of the sick, have been carried round the world.

The measure, whatever may have been the understanding and the motive, was one of great practical wisdom, and ought to have afforded an excellent lesson in all the subsequent invasions of the malady, for a move even to the shortest distance at once stopped the disease, and furnished the most unanswerable reply to the doctrine it was intended to establish. Wherever pestilence, whether malarious or not, takes up its abode, it is a maxim of old standing to depart as soon from the place, go as far and stay as long as convenience will permit; but when large bodies of men, such as a garrison, or encampment of troops cannot so migrate, the smallest change of locality, as in the instance before us at Gibraltar, will often suffice to stop the disease; and there ought always to be a supply of tents in the garrison adequate to the occasion, whenever the disease arises again, as unquestionably it will, whenever the temperature of the season and the state of the rock favour its explosion. It has been triumphantly asked, why, if Gibraltar hill in its different aspects of becalmed locality and leeward base be so favourable to the production of yellow fever, Cadiz, perfectly flat on a dry isthmus, should have been visited by the disease fully as often? and the reply is obvious. All walled towns become depôts of accumulated malaria in the countries where that element of disease exists. Their walls and defences impede ventilation, and render perflation all but impossible. The poison collects at the base of the fortifications, and lurks in the angles and ditches of fortified lines. Hence Seringapatam in the East, not very unlike Gibraltar in its form, has ever proved a most dangerous quarter to Europeans. Hence Barcelona has more than once been visited by true yellow fever,* and hence have Fort Bourbon and Fort Edward in Martinique, and Fort Fleur d' Epé and Fort Matilda in Guadaloupe, ever proved most deadly to their garrisons. I may be told that when all the circumstances just related have been found in the fullest operation, not only for a season, but for courses of seasons, no yellow fever has been produced, and but for its introduction by ships it never would have occurred. To the first I assent, but the second is an invention or a delusion. Who can say, in our more fortunate land, why malignant, epidemic erysipelas, or fatal puerperal fever, should pervade whole districts in one season, and in another of no perceptible difference, or even more favorable aspect, neither the one nor the other can be called into existence: and are we, when in malarious countries, because we cannot tell why yellow fever should absent itself for a long or a short period, justified in asserting, when it comes, that it must have been introduced from abroad; proclaiming, consequently, the advent of a new plague, and denouncing the sick as being unapproachable and dangerous, for once make the people believe in the reality of imported pestilence, and we shall call upon them in vain for succour and assistance to objects breathing forth contagion and death to all who approach them.

With this question of tropical contagious fever I have often grappled, and I shall now try to grapple again. True contagion is no respecter of persons but the negro race, indeed I may say the whole coloured population, the most numerous by at least ten to one of the inhabitants of our West India Colonies, never take the disease; and the native Creole whites and creolised inhabitants, relaxed by the climate and enervated in their constitutions, therefore less fitted to resist any new infection, are infinitely less liable to be attacked than newly-arrived Europeans. I have read of negroes taking yellow fever when returning to the colonies after a residence in cold countries, but though I have twice in the course of my life sojourned for a course of years in the West Indies, I never saw it, nor met with any one who had actually seen it; and is the negro infection-proof? Have the true contagions of small-pox, measles, scarlatina, &c. no power over him? or typhus fever when in this country, or plague when in the Levant? and can he resist the infections of syphilis and scabies any where? These questions would be ridiculous, if seriously propounded, for it is notorious that whole plantations have often been ravaged whenever small-pox and the true contagions have been introduced. Why then does he resist the supposed contagion of yellow fever?—simply because it is not a contagious but a malarious disease; and against all malaria it is well known that he is fever-proof: but let us examine this question if we can a little more deeply. The contagion of fever does not readily take root under tropical heat—our typhus fever cannot easily be carried to the West Indies, or if it should in foul transport ships, perchance, be landed there, it is immediately dissipated by the heat of the climate. The high temperature is most prolific of fevers, but not of contagious ones. The late Dr. Henry, of Manchester, proved by positive experiment that of all disinfectants heat was the speediest and most infallible. He exposed the gross tangible contagious matter of small-pox, cow-pox, and scarlet fever to a heat of 140° of Fahrenheit, and found that they were thereby deprived of all infectious power; and in the case of typhus fever not being transportable to the tropics, we had, during the last war, more particularly in the ill-fated expedition of Admiral Christian, in the year 1795, proofs innumerable that the gaseous, ærial contagions were dissipated under a heat of between 80° and 90° of the same scale. Having been there, I speak from actual observation. We know, moreover, that the plague of the Levant disappears as soon as the high Summer heat in Egypt sets in,* and that it never yet has been carried beyond the tropic into the equatorial regions. Now should not these facts (for they are facts) weigh with Mr. Fergusson, before he propagates the dangerous belief of yellow fever, with the exception of Sierra Leona, (and why that exception) ever being an imported contagious pestilence, as if contagion could be the product of the disinfecting principle itself! I have never enjoyed the honour of his acquaintance, but I duly appreciate the usefulness of his life, and, in the hope that he may yet have a long career to run, I entreat he will give them the consideration they are entitled to, and then I am sure he will no longer lend himself to a delusion, which, wherever it can be made to prevail, must be attended with consequences at which humanity shudders. Let him reflect that the word contagion, always the word of fear, if pronounced by him, who has had so much experience, may prove the word of doom; and that it will be far more honourable to acknowledge that he may have been mistaken, than to persist in an error which, if received as a truth, must prove fatal not only to many of the present generation of Europeans inhabiting the tropics, but to thousands yet unborn.

---

* I will here venture to prophesy that, if ever the heat should amount to that of the tropics, and be continued for a sufficient length of time, St. Sebastian, from its form, will become the seat of yellow fever. Its beautiful tide river, through which our troops at low water waded to storm the breach, has hitherto to a certain extent been a safeguard.

I abstain from repeating the arguments I brought forward when I last wrote in the Medical Gazette, in reply to Dr. Fraser. They are dated February 24th and April 24th, 1838, and also United Service Journal for April, 1838, and I beg Mr. Fergusson will do me the honour to read them, and then, when he returns to the coast of Africa, the field of his usefulness and research, he will I hope, on the next invasion of yellow fever, take for his guide the emphatic words of my friend Dr. Gilkerest, of Gibraltar—PLACES NOT PERSONS—for they comprehend the whole history of the disease, in its source, nature, and progress. The cruel quarantine will then no longer be made to vex the coast, and the courage of the inhabitants, when they come to know what the disease actually is, be assured. They will then, instead of denouncing one another, seek, in as far as they can, the only rational means of safety in a change of abode, but if the panic of contagion be kept up, then adieu to all the feelings of common humanity, no matter how humane and christianised they may originally have been, for self-preservation in all ordinary minds is ever the first law of nature. The sick will be deserted, thereby aggravating the malady a hundred fold, at the risk, too, of generating a temporary contagion of neglect and accumulation; for such is the nature of all febrile contagion (I speak not of the exanthemata) even within the torrid zone. All this will be in Mr. Fergusson's power whether for good or for evil, and I cannot doubt that he will choose the better part, for the superstition of contagion in tropical fever, the remnant of an age gone by, although still taught in our schools, is fast passing away, and I trust he will no longer be influenced by it. The doctrine is eminently antisocial, and if the facts and arguments I have adduced in the present and other writings to which I have referred him, are not to be refuted, I am sure he will acknowledge it to be equally unphilosophic. It is surely full time that the fumigators—the burners of bedding—as if the heat of boiling water at 212° would not suffice—and all the ill-omened hosts of quarantine, should be referred to the beautiful demonstrations of Dr. Henry, which must soon lay them to rest as effectually as the ghosts which frightened our forefathers were said to have been laid in the Red Sea. These experiments are pregnant with the most important results to the best interests of mankind in every part of the world, and will embalm his memory for as long as science and humanity are appreciated amongst the friends of the human race.

---

* Vide Assalini.

Having now, I believe, replied sufficiently to the letter of Surgeon Fergusson, I shall proceed to some general considerations of the nature of tropical fever.

In the examination of this question it seems hard that we, who have lived for years under the direst scourge of the disease, and sustained its attacks in our own persons under the most appalling forms, should always after a time be set aside as if we had never spoken nor written on the subject: and that the schools teaching contagion without ever having seen yellow fever, and the home authorities should, like the resuscitations of animal magnetism, again reassume their sway—setting at nought the evidence of experience and the accumulated testimonies, all but unanimous, of the fleets and armies who were so severely victimized by it in the course of last war. In the year 1795 England put forth her strength, and a magnificent armament that might have turned the tide of war on the Continent was arrayed under Sir Ralph Abercrombie for the recovery of sugar islands and the conquest of St. Domingo. To the latter I was attached, and its fate was the same as has ever attended, and ever will attend, a European army proceeding to the West Indies—the troops died by thousands, and if ever yellow fever and black vomit reigned supreme, it was then and there: but did that make us contagionists? On the contrary, it unmade us I may say to a man, and cured us for ever of the delusion that had been imposed by all the schools and authorities at home.

Dr. Bancroft has given the history of contagion and its short-lived reign in the windward colonies—Doctors Jackson and M'Lean that of St. Domingo; and although nearly half a century has elapsed, the inspectors general, Doctors Theodore Gordon, Sen., Borland, and Warren, who served with me there, are yet alive to prove the non-existence, the impossibility of contagion, and this I can confidently say was the thorough conviction of all, whether medical, military, or civilian, who had been obliged to remain a year or longer in the country. What we saw every day of our lives was *la fièvre Européenne* of the French—(la fièvre des blancs)—that most emphatic comprehensive phrase which in one word truly defines and characterises the disease. All history too confirms it:

turn to our annals, and it will there be seen that the expeditions to Carthagena, the Havanna, St. Domingo, and indeed every other to the West Indies, whatever might be the event of war, had but one termination—the burial of the troops from yellow fever. Hereafter Great Britain, unless she means the same tale of woe to be rehearsed for ever, must condescend to conquer, and more especially to preserve her conquests, with the black man's instead of the white man's arm—so much for the Army.

In the Navy it may fairly be supposed that the medical staff shut up in the same ship with the sick could scarcely fail to know whether the distemper was contagious or not; and although not so unanimous on the subject as an experienced army medical staff, are yet by a great majority anti-contagionist. The dissidents are to be accounted for from the comparative rarity of yellow fever on board-ship, (for it is a land-disease,) where they only see it as it is brought from the shore, or as it comes in bursts or explosions arising from the state of the hold or cargo or greenness of the timbers; and if it be the first of the kind witnessed, it may be difficult for any one, whether medical or not, to discriminate between the current of epidemic and contagious disease. I have already, in the Medical Gazette of last year and other publications, given the history of imported yellow fever at Barbadoes in the instances of the Regalia transport and the Childers sloop of war, both under my own particular care and direction, and shewed the impossibility of their being so much as suspected, after the freest communication of having communicated any contagion; and to illustrate these points still further, I shall here relate two experiences of what I may call marine yellow fever—the first occurring to myself, the second to a professional gentleman* now in Windsor.

In the year 1816, while yellow fever was raging at Barbadoes, it was my lot, I suppose, from being an old seasoned subject, to be taken with very violent but irregular intermittent fever. Admiral Harvey invited me to go on a cruise with him amongst the islands in the flag-ship, and soon after leaving Carlisle Bay, yellow fever broke out amongst the crew. There were, if I recollect right, seven very bad cases; but Mr. Neale the surgeon, a sensible and excellent officer, at once negatived the smallest idea of contagion. The assistant-surgeon, Mr. Byrne,* brought up his cot from the cockpit and slung it in the sick-bay, in order that at all hours he might be near his patients. Their comrades were allowed the freest access, and the officers of the ship were encouraged to visit and shew them every attention. The consequences were the happiest; for although the cruize lasted several weeks, we did not carry back a single case of the disease to Barbadoes.

The other experience to which I allude took place at Kingston, or rather Port Royal, Jamaica, where my friend was taking his passage along with a detachment of artillery and some officers of a West India regiment to Belize, in the Bay of Honduras, in the Recovery brig, commanded by Captain Hamlin. The yellow fever had been raging in Jamaica in the same manner as at Barbadoes, where the Recovery had buried three of her crew; and on the second day of the voyage, the 1st mate sickened and speedily died, under the most appalling form of the disease. The crew were panic-struck, and, reporting themselves sick, lay down upon the decks, and the captain, believing himself doomed, took to his bed. My friend luckily, having when at sea amused himself in taking observations, assumed the direction of the ship's course, and, favoured by the winds, she reached Belize, where, as soon as the pilot had made his report, her arrival was looked upon as that of the death-ship, and she would either have been kept in the deadening quarantine or forced to sea again, had not the quarantine master, Staff-surgeon Thornton, fortunately been a man of observation and knowledge. He visited the sick, and declared that there was not a case of yellow fever nor any thing like it amongst them—they were merely panic-struck, and as soon as they received the hospitality and succour of the port, which they did without precaution or reserve, they were speedily all well again. Now in the first case, when the epidemic presence was upon us, had the medical men on board lent themselves to the delusion and cried contagion, we might, I verily believe, have unmanned the British flag, and converted the admiral's ship *(silvæ filia nobilis)* into a pest-hulk; and in the second place, there can be little doubt that had the ship been kept out at sea, or laid up in quarantine with the plague-mark upon her, disease would have done its work amongst the terrified people, and we then should have had a new edition of contagion, as in the celebrated case of the Hankey, arising from the deceased mate of the ship. One instance can never be taken for proof, nor do I wish what I am going to say to be held for more than it is worth, but on this cruise, and on other occasions, I saw hospital patients with ordinary diseases exchange beds with the sick dying of yellow fever, without any consequences resulting. I have even in the course of my life been obliged, through necessity and fatigue, to submit to something of the same kind myself, and I declare that, but for the personal impropriety, I should not feel the smallest hesitation to do it again, or to sanction its being done by others. In the St. Domingo army the disease, from some unexplained peculiarity of the time, rarely attacked the women attending upon and sleeping with their dying husbands, and the number of the latter some of these females had expended, for short as their wedlock had been, their widowhood was far shorter, became a constant source of jocularity and remark.*

---

* Mr. H. Moore, Dentist.

* I write from memory, and trust that I do not mistake his name, for his conduct was beautiful. I know no better term to express this tribute of my respect, and if in life I hope he will accept it. I believe he afterwards sailed with Capt. Basil Hall, as surgeon of the frigate he commanded.

That there are anomalies and difficulties in regard to the question of yellow fever—its sudden bursts and invasions—its disappearances too when within the Tropics, without in so far as we can see, any adequate reason, there being no such bursts within our recollection in Bengal, nor on the shores and islands of the East Indian seas, I freely acknowledge; but it has not been altogether unknown there, for one of its earliest designations was the *maladie de Siam*. In the East they have never dreamed of contagion in any tropical febrile disease, and that it ever should have become our creed in regard to the West must have been occasioned by European troops being landed there in large masses, and despatched on service throughout the colonies in crowded ships, thereby generating, it may be, although I can scarcely believe it under such a heat, for the passing day, a contagious atmosphere of accumulation. I will even go so far as to admit the possibility of this occurring in densely populated towns and garrisons such as Gibraltar, but the difference of a contagious atmosphere and a contagious individual is this. In the first almost all will be liable to fall under its influence while they remain in the place; but in the latter case, take the worst of the sick that can be selected out of the contaminated locality, and you may approach him as safely and receive as little contagion from him as you would from a marble statue or a graven image. True contagion infects at the shortest interview, and through the instrumentality of the smallest particle even of an invisible gas, in all situations and places: but factitious temporary contagion can only acquire power through the medium of a crowd generating accumulation. In the East the approach to its coasts was interdicted to all colonists under the monopoly of the old East India Company—crowds of Europeans never went and never resided there—nor do they even now; but when the suburbs of towns come to be filled with them, as at Gibraltar, it will then be seen, for it is eminently the disease of high temperature, whether the maladie de Siam may not again arise even in Calcutta.

---

* The case was widely different at Barbadoes in the year 1816, when the women, more especially those of the newly-arrived Queen's Regiment, died fully as fast or faster than the men.

These questions become deeply interesting when we reflect upon the present condition of by far our richest colony of the West (Demarara), where one of our finest regiments is reported to be under a course of speedy extermination from yellow fever—while I write even now the work may be accomplished. When it ravaged that colony, three years ago, Doctor Fraser, the quarantine master, true to his calling, declared that it was imported from Kerrynane,* or some such name, that it was fearfully contagious, and that all were Atheists who did not believe it.† To have imported the disease into such a place would indeed have been a work of supererogation, for a deeper—a mightier swamp I never contemplated. It may be called the deepest in the world, and the terms and periods of healthiness, instead of unhealthiness, at Demarara constitute the wonder: and here I feel myself called upon to speak of malaria as emanating from marshes and of vegetable putrefaction as constituting its element. When at the head of the medical department in the West Indies during the years 1815, 16, and 17, I made it my business, and I considered it my duty, to explore in as far as was practicable every swamp in the inhabited quarters of the windward and leeward colonies, and the result perfectly corresponded with that stated in the Government medico-statistical report—that even the most declared open swamps did not at all times produce disease amongst the inhabitants dwelling in them or near them. My experience led to the conclusion that for as long as they were filled with water they were generally harmless, but whenever they, or part of them, came to a dried or an advanced drying state, they were as generally pestiferous. In regard to vegetable putrefaction, as evinced by the smell, it absolutely meant, or at least produced nothing, no matter how strong the fætor, and as I have stated in former publications, I have experienced it so strong as to deprive me of sleep. The most declared swamps in the fullest process of vegetable growth and decay were under the above circumstances innoxious, but so were not the deep ravines—the dried watercourses of hills, or the leeward bases of mountains, which perflation could not reach—these I may say were uniformly pernicious to all the white race of mankind. Swamps do not always produce malaria in tropical climates, but these never fail, and I believe never will fail, either there or in America or Europe, for as long as the steady atmospheric heat without rain amounts to between 80° and 90° of Fahrenheit. I am not pretending to say what malaria is, nor whether it be the same element as marsh miasma or not—the marsh so abounding in one may, when approaching to dryness, emit both—the ravine, if there be two elements, only one: the marsh, when filled with water, may prove as habitable as any other land—the ravine, more especially its bouchure, never: the marsh is notorious for producing ague, and the lesser grades of what has been called malarious fever—the ravine only the higher; it would even appear to be incapable of giving rise to the former, and when the time for invasion arrives, makes itself felt in bursts and explosions, often without previous warning, of such fevers as have destroyed our armies and devastated our West India colonies: the cleanest lands will not at these times save the inhabitants; for the dry rocky watercourses—the purest sands, after they have been saturated with water, and the hard mountain basin, where vegetation never grew, become its constant abode, *provided always that they are to leeward and cannot be ventilated.* Vegetable putrefaction! as if our dung-heaps and pig-styes in every part of the world did not teach us better. Where was it in the arid plains of Spain, long denuded of all vegetation, when our armies were paralysed by autumnal fevers?—where is it even now in the dried pestiferous Campagna di Roma?—and why did it sleep when in healthy, (comparatively speaking,) because rainy seasons? I visited and reported upon the putrid marshes of Trinidad, Berbice, Guadaloupe, Tobago, and St. Lucie. Malaria is in fact the production more or less of the earth's surface—never of the ocean's—in every hot season or climate. It is certainly absorbed by water and dissipated by the winds, but when these agencies fail, it accumulates into force, and spreads disease and death around. We do not yet understand it, and never will understand it until we can clear our heads of the long-cherished superstition (for it deserves no other name) of vegetable putrefaction being the sole and only source of malaria. The leaven of the false creed will otherwise continue to prejudice our minds, and when disease, for which in the absence of marshes we can discover no cause, makes its invasion, constrain us to seek refuge from the trouble of thinking in the doctrines of contagion, and the monstrous safeguards of quarantine—a quarantine, in fact, against the heat of the season calling into existence a morbific element of the natural world. I am not pretending to lay down the law to others—I am only telling what I myself have experienced; and if the testimony of an eye-witness can be of any avail, the authorities, when Gibraltar again falls under the dominion of pestilence, as fall it will whenever the drought and calms are long continued, the garrison numerous and the heat great, may, if they choose to enquire, find the source of the disease in its hollows and fortifications and leeward base, without seeking for its importation from beyond the Atlantic: the fabled poison of the far-famed upas tree is but a type of malarious locality. I believe it grows in the unventilated mountain-hollows of dry rocky deserts, where the malaria is so deadly, but the tree itself, though exuding, when wounded, a narcotic poison, under the form of a white milky juice, is as safe to approach and to handle as ever a yellow-fever patient was in St. Domingo, and I believe I may add with confidence, in Gibraltar: and is this all declamation, and have we no remedy? It stares us in the face. Let yellow fever for ever be expunged from the list of importable and transportable contagions; the whole world of its range, as we see at this moment at New Orleans, Mobile, Augusta, &c. (and can a ship, with incomprehensible punctuality, have gone to all these places just at this season, as if for the express purpose of dropping yellow fever) is every year proclaiming the impossibility—dismiss, in as far as that disease is concerned, the ministers of quarantine, for they are paid and appointed to deceive—wherever it prevails seek the only possible safety in removing from the locality, so often a very limited one—and when that cannot be done, firmly await its sure extinction in the changes of the season, and eschew for ever the unchristian, I may in its consequences call it the atrocious doctrine, of excommunicating the sick, for in that way you may, through neglect and accumulation, generate a true contagious pestilence, which atmospheric heat without ventilation will neither dissipate, nor cold extinguish. Do this—I address myself to our rulers—and the whole race of importers and expurgators and fumigators* will no more be seen, for men's minds, redeemed from panic and prejudice, will then be turned to the lessons of true philosophy, and the British name be rescued from the reproach of having so long cherished a delusion so discreditable to the national character, and injurious to our best commercial interests.

---

* I had heard of Derrynane, but where Kerrynane is I have never been able to discover.

† This is much such an argument as was used by Lord Peter in Swift's Tale of a Tub.

---

* God forbid that I should be supposed to utter a word in derogation of discipline and cleanliness, but of all absurdities fumigation against we know not what (for who can tell the nature of those vapours that convey diseases) seems to me the greatest. In the application of caloric we possess a certain and immediate disinfectant, and in the admission of light, air, and water, we

I am now past the age and the ability of active service, and must leave the swamps and ravines of the Tropics to be explored hereafter by abler men; but I can still stand sentry at the gates of the printing office, and when illicit matter, pregnant with delusion upon the public mind, is passing through its engines, refuse it currency until subjected to examination, and bearing my protest: and with this protest I shall conclude, although I believe that, even at the risk of being deemed garrulous, I shall trespass on your pages with another letter, for even while I now write fresh matter, the recollections of times long ago keep rising to my mind, which (from self-partiality it may be) I cannot help thinking may prove further illustrative of tropical fever—its sources—its phenomena—its prevention and treatment.

W. FERGUSSON.

Windsor, October 10th, 1839.

Dr. STRANGE ON THE CLIMATE OF NAPLES.

Sorrento, July 8th, 1839.

Dear Doctor Evanson,

I transmit to you a complete copy of the Meteorological Tables, which I showed you at Naples; and of which you expressed a desire to have a copy. You will find enclosed—1st, A copy of the meteorological observations made daily by me at Naples and Sorrento, during the year 1838.*—2nd. An abstract of these meteorological observations—and 3rd. A table shewing the mean of the hygrometer and thermometer, &c. &c. With such general remarks on the climate, and on the mode of making these observations, as I thought would prove useful.

Your's, very truly,

R. STRANGE.

---

have others equally sure but of slower operation, and indefinite with respect to time—why then resort to fumigation, even if it were proved to be a disinfectant (which it is not), unless to mystify the people. The trick has had its day, and is becoming stale—it has been too long practised, as I know from experience, for on my last return from the West Indies, in the year 1817, I was subjected to personal fumigation on three succeeding days at the quarantine station in the Isle of Wight, and in confoundedly cold weather too, lest I should introduce the yellow fever into England!!!

* These Tables are in the possession of the Editors; but are too voluminous to print in this Journal. The abstract is quite sufficient.—*Eds.*

ABSTRACT of the METEOROLOGICAL OBSERVATIONS

MONTHS.	PREVAILING WINDS. Number of Days from each Quarter.								RAIN GUAGE.			
	South	South-west	West	North-west	North	North-east	East	South-east	Number of Days on which Rain fell.	Quantity of Rain in French lines & decimals	Mean of the differences between the dry & wet Thermometers	Mean absolute dryness according to Dr. Mason's calculation
JANUARY....	8	6	2	4	2	2	2	2	22	50·19	4·73	11·01
FEBRUARY...	2	10	4	4	1	4	2	1	21	115·67	3·70	8·61
MARCH	3	7	3	..	4	5	4	5	21	41·99	3·84	8·94
APRIL	5	11	2	3	1	2	1	5	10	41·27	5·70	13·28
MAY........	6	13	1	4	4	..	1	2	6	10·98	5·80	13·50
JUNE	5	12	6	1	..	2	..	4	4	6·04	4·93	11·52
JULY	4	11	9	2	..	1	2	2	2	1·31	5·70	13·27
AUGUST	8	10	8	3	..	1	..	1	4	16·35	6·77	15·77
SEPTEMBER..	9	5	9	2	1	..	1	3	4	11·37	4·65	10·81
OCTOBER....	3	5	5	2	..	11	..	5	10	36·77	4·83	11·22
NOVEMBER ..	4	7	..	4	5	5	..	5	14	90·59	4·60	10·72
DECEMBER ..	..	3	..	..	7	10	3	8	10	82·68	4·26	9·84

made at ***NAPLES*** *and* ***SORRENTO*** *during the* ***YEAR*** **1838.**

HYGROMETER.				THERMOMETER.							
Greatest absolute dryness observed during the Month	Mean Dew Point	Highest Dew Point observed as the mean of a day	Lowest Dew Point observed—mean of a day	Maximum of the month	Minimum of the month	Mean maximum	Mean minimum	Mean Temperature	Mean Diurnal Variation	Greatest Diurnal Variation	Least Diurnal Variation
28th, 21·00	41·43	50·34	30·17	62·00	38·00	57·30	47·60	52·45	9·70	18·50	2
19th, 22·16	43·21	51·67	32·50	64·00	41·00	56·28	47·36	51·82	9·00	15·00	3
31st, 26·50	45·26	53·00	31·00	65·00	41·00	60·10	48·31	54·20	11·80	21·00	5
24th, 28·00	42·17	50·17	31·67	70·00	43·00	62·30	48·60	55·45	13·63	20·00	6
2d, 37·33	48·72	61·00	40·00	83·00	51·00	69·00	55·51	62·22	13·50	24·00	6
9th, 31·50	55·68	64·34	36·17	81·00	55·00	73·44	60·96	67·20	11·25	15·00	6
15th, 30·33	57·81	64·84	45·00	82·00	59·00	77·00	65·16	71·08	11·84	15·00	8
12,16,18, 31·50	54·84	65·67	45·17	80·00	58·00	76·38	64·84	70·61	11·55	15·00	8
8th, 9th, 28·00	56·55	61·84	49·00	81·00	56·00	73·30	61·43	67·36	11·86	16·00	8
6th, 12th 23·50	50·29	60·50	36·84	73·00	50·00	67·46	55·56	61·51	11·90	18·00	6
7th, 30·50	48·27	59·00	29·67	70·00	45·00	65·76	52·22	58·99	13·51	20·00	4
2d, 18·66	39·40	54·67	23·34	65·00	30·00	53·90	44·64	49·27	9·25	16·00	2

TABLE shewing the Mean of the Hygrometer and Thermometer—the Quantity of Rain which fell—the Number of Days on which Rain fell—and the Number of Days each Wind prevailed at Naples, during the Year 1838.

RAIN.		HYGROMETER.						THERMOMETER.								No. of Days each Wind prevailed							
Number of Days on which Rain fell	Number of French Lines & Decimals of Rain during the Year.	Mean of the differences between the dry and wet Bulbs	Mean absolute Dryness according to Dr. Mason's calculation	Greatest absolute dryness observed during the year	Mean Dew Point	Highest Dew Point observed during a whole day	Lowest Dew Point observed—mean of a whole day.	Maximum of the Year	Minimum of the Year	Mean maximum	Mean minimum	Mean Temperature	Mean diurnal Variation	Greatest diurnal Variation	Least diurnal Variation	Days from South-east	Days from South	Days from South-west	Days from West	Days from North-west	Days from North	Days from North-east	Days from East
137	505.21	4.96	11.54	37.33	48.22	65.67	23.34	83.00	30.00	66.01	54.35	60.18	11.66	24.00	2.00	43	57	108	49	29	25	43	16

These Tables were kept, if not with all the exactness I could wish, at least with as much regularity as my professional duties would permit—the observations were generally taken three times a day at the hours specified, or as near to these hours as I could conveniently do it. The following remarks may be useful, as explaining the manner in which the tables were kept.

I. The rain gauge, from which the quantity of rain is taken, was kept at the Royal Marine Observatory, about two miles from my house, and at an elevation of two hundred and sixty French feet above the level of the sea; the rainy days, however, were notes by myself each evening, and the crosses (×) in the column marked *prevailing winds*, shews what appeared to me to be the proportionate quantity of rain at the time it fell, from ×, a few drops, to × × × ×, heavy and long-continued rain. The measurement of the rain is made in French lines and decimals, and as I am not quite certain as to the proportion between French and English lines and inches, I have thought it best to give, in the table, the original measurement: during the year 1838, therefore, you will perceive that there were 137 days on which rain fell, and that the quantity of rain amounted in all to 505.21 lines French measurement: now if we reckon the French line as equal to 0.91 English, (which I believe to be pretty nearly the truth,) we shall then have 100:91::505.21:45.97 English inches, or within a fraction of 46 English inches. This quantity of rain is great in comparison with England; but the evaporation after showers is so rapid here, that the streets are generally quite dry in half an hour after the rain falls. I must also remark that the year 1838 was unusually wet, especially during the months of January, February, and March—and in the whole year of 1838 there fell nearly a fifth part more of rain than usually falls in one year—the average quantity of rain I believe to be about 36 inches.

II. The hygrometer I use is the same as that employed by the late Dr. Mason in making his observations in the Island of Madeira. It consists of two thermometers, the bulbs of which are covered with thin muslin or tafeta—the one bulb dry, the other kept constantly moistened with boiled or distilled water—the difference between these two thermometers noted three times a day, and the mean of the three observations taken, constitutes what is called the *mean of the differences observed*, in the first column under the head "Hygrometer." The second column under the head Hygrometer is intended to shew the degree of absolute dryness which exists in the air, which, according to Dr. Mason's calculation, is a fraction more than double, or as 7 to 3 to the difference observed. The third column, " the greatest absolute dryness," will shew what the greatest dryness has been during the day, and this is generally between the hours of 1 and 2 in the afternoon. The dew point is obtained by subtracting the mean absolute dryness in the second column from the mean temperature. Obs. I may here remark that the dampest time of the day is from sun-set to sun-rise, and that the maximum degree of saturation is usually about an hour before sun-rise. A little before sun-rise, however, the evaporation begins and goes on encreasing till 1 or 2 o'clock in the afternoon, at which time the dryness is usually at its greatest degree. About 4 o'clock in the afternoon the evaporation begins to diminish, and consequently the dampness to encrease, and this goes on till after sun-set, from which time till the morning the saturation of the air is at its greatest.

III. The thermometers I employ for obtaining the temperature are of two kinds—the temperature of the night, or the minimum of the 24 hours is taken with a spirit register thermometer, which is placed in a sheltered situation open to the North and East; but as it is impossible, from the position of my house, to keep the maximum register thermometer free from reflected heat at all hours of the day, I have preferred taking the maximum temperature by means of a common thermometer placed in the shade in a North-east aspect, between the hours of two and three in Summer, and between one and two in Winter, these being the hours of the day when the temperature is usually at its highest pitch. The thermometer which I employ for taking the temperature at nine, two, and ten o'clock, is the same which forms the dry bulb of the hygrometer. I use this thermometer not only because it saves time, but also because the bulb being covered with muslin, it is thereby better protected from reflected heat. Obs. It will be observed that the mean temperature for the year is given by me at 60.18, which is lower than that given by Sir James Clark, in his work on Climate, as the mean temperature of Naples. This circumstance is easily explained—my observations are made during the Summer months at *Sorrento* instead of Naples, and there the temperature is considerably lower than in the latter place, particularly during the months of July and August, at which time the country being covered with vines and vegetables, the temperature is not encreased as it is in Naples by terrestrial radiation.

IV. The peculiar position of Naples renders it very difficult if not impossible to state precisely the quarter from which the winds come: the town stands on the declivity of a hill, open to the sea on the South, but defended on the side towards the land, not only by the hill on which it stands, but also by higher mountains behind this, which have a considerable influence in altering the direction of the wind, so that often while, in one part of the town, the wind appears to be from the North, in another part it will be from the North-east, and in a third from the North-west. Although, therefore, I have, in these tables, divided the winds into eight points, still, as affecting the climate, and thereby producing an influence on the health of the inhabitants, it will be sufficient for our purpose to class them under two different heads; the first comprehending the land-winds, and the other the sea-winds. Under the name of land-winds I include all winds from the North of West round to the East; and under the opposite denomination of sea-winds I include all from the South-east, South, and South-west. The West wind ought properly to form a division by itself as being different from both the others—neither so cold and exciting as the land-winds, nor so wet and stormy as the wind from the sea; this wind, however, is unfortunately of so short continuance, that it can hardly be considered as exerting any influence on the salubrity or insalubrity of Naples. The first class of winds, then, the land-winds, are all those which come from the North-west, North, North-east, and East. They are most frequent during the vernal and autumnal months, and this year they were most prevalent during the months of December, November, October, March, February, and January, in the order I have now stated them: these winds are dry and cold, irritating to the lungs of patients in the first stage of tubercular phthisis, and injurious to many patients who suffer from spasmodic asthma, rheumatism, or from irritation of the mucous membranes of the stomach, intestines, and air-passages. On the other hand, to patients who suffer from simple debility, without any organic affection, and to those who are affected with particular kinds of nervous headaches, and to whom the air of England and even that of Rome feels heavy and oppressive—to patients with relaxation of the muscular fibre brought on by uterine or other discharges—in fact, to all patients who require a bracing air, or whose complaints are benefitted by tonic medicines—to all such this land-wind is most agreeable and beneficial, and it is surprising how suddenly persons, who can hardly stir from the sofa during the prevalence of the sea-wind, regain their strength and spirits as soon as it comes round to the land. It is, however, a dangerous wind to patients who suffer from pulmonary disease or from organic disease in general, more especially as the variations of temperature are always greatest while this wind prevails, the difference of temperature between the day and night, or, in other words, the diurnal variation, being then at its maximum, as well as the difference of temperature between the sun and shade; for as the sky is usually at this time very clear without any clouds to intercept the rays of the sun, its power is usually great, while the wind coming from the snowy Appenines renders the shade unusually cold.

The sea-winds are by far the most prevalent, and of these the South-west is the most frequent. In 1838 the sea-winds were in proportion to the land-winds, as 250 to 115. In Summer the sea-breeze is from the South-west, and usually blows from 10, a. m., till 5, p. m.; and in Winter it blows more than two-thirds of the time. In Winter the rain and strongest winds usually come from the South-west. During the continuance of these winds the mean temperature is greater, and the diurnal variations less, than when the opposite winds prevail; they are therefore considered as being well suited to patients with pulmonary diseases, rheumatism, and chronic bronchitis; but, on the whole, the climate of Naples is too variable for pulmonary diseases.

MR. STILON (OF MALTA) ON THE BLIND CATHETER.

Every medical man who has been engaged for any time in the practice of his profession, must be fully aware how indispensable for the proper and conscientious discharge of his duties is a real zeal and anxious interest in the welfare of his patients. How many inventions, how many solid improvements in science may be traced up to this cause, and whatever merit the new form of catheter, represented in the accompanying plate, may have, it owes its origin to this cause, having suggested itself to me during an anxious attendance on a case of a very trying nature.

In the month of October of the year 1838, I was requested to attend Mr. Gilio of this city, a person in easy circumstances, and of about 80 years of age. I found him labouring under severe retention of urine, and in great pain. He referred his complaint to piles, from which he had been suffering many years, and which frequently appearing externally, brought on copious hæmorrhage, and occasioned him great distress.

For some time before I was called he had observed that he voided but a small quantity of urine, and attributing this to the pressure of the hæmorrhoidal tumor, had had leeches applied. The relief which followed was only trifling, and in no way proportioned to his expectations, as on any former occurrence of the same symptoms the application of a few leeches had always proved most effectual.

The urine, in the mean time, kept accumulating; the bladder was soon greatly distended above the pubis, and the unfortunate patient was incessantly tormented with a desire to micturate.

The case was sufficiently urgent, and I immediately introduced a gum elastic catheter, which brought away a great quantity of urine mixed with blood.

In introducing the instrument I met with some difficulty at the neck of the bladder, and concluded that that was the seat of the obstruction. On examining the instrument, after having withdrawn it, I found the eyes, or apertures, at its rounded extremity, filled with coagulated blood; however there was every reason for supposing that the bladder had been completely emptied.

For several days I was obliged to introduce the catheter twice a day. But on introducing it one morning I was surprised by not seeing any urine flow from it. I took out the wire, still no urine issued—withdrawing the catheter, I found its apertures completely closed with coagula, which obstinately appeared to oppose the passage of the urine. I now hoped, by re-introducing the catheter several times, and freely moving it about, I might succeed in breaking up the coagula. I tried, but in vain; and as the case was becoming very urgent, I desired a consultation should take place. This was immediately attended to, and while the other medical men were present, I introduced a longer catheter than the one I had used before, and so succeeded in extracting a moderate quantity of urine mixed with blood. On account of the former difficulties it was thought advisable by the other gentlemen present, as well as myself, to leave the catheter in during the night. As the catheter did not act at all, I withdrew it at my visit next morning, and found it filled with coagulated blood. After cleaning it well I again introduced it, but to no purpose, for not a single drop of urine followed. The symptoms were now so urgent, that there was every reason to fear for the patient's life. Animated however by the well-known saying,—"Nihil tam arduum quod non expugnat pertinax operosa ac diligens cura," I did not lose all hope. The symptoms seemed to me clearly to indicate the nature of the obstacle. There were evidently coagula either in the cavity of the bladder, or in the canal of the urethra; and this by closing the apertures of the catheter, of course prevented the flow of urine through it. After pondering for some time on the peculiar circumstances of the case, it struck me that if I could modify the catheter, so as to have in it a portion that might push aside the coagula, while another gave passage to the urine, it would answer the purpose, and enable me to give immediate relief. The printed form of the instrument, which I inclose with this, soon suggested itself to my mind, and I hastened at once to have one made after my direction. I shall not attempt to describe the anxiety with which I again visited my patient; the symptoms were more urgent than ever, and he was crying aloud for relief. I introduced the modified catheter, and, to my great satisfaction, the urine immediately flowed from it in great quantity and with the greatest ease. Every successive trial of it on the following days met with the same success, and further reflections and experience has fully convinced me of the advantages which such a form of catheter will be found to present—the more it is generally known, and the more it is applied to the many cases of a similar nature which occur in the course of medical practice. This conviction induces me to beg of you to publish the accompanying design, as well as the history of the case, which suggested the modification, and should feel highly gratified if it in any way meet the general approbation of the profession.

I shall conclude by some few remarks on the instrument itself. It can be introduced without the least fear of limiting the mucous membrane of the urethra or bladder. The screw which runs through it perfectly insures this, and neither during its introduction, nor during its extraction, can it present the least roughness. Should it be necessary to leave it in the bladder for any length of time, its internal surface will remain perfectly clean so long as its extremity is kept closed (as it ought to be), and only opened when the bladder is to be relieved from its contents. The perfect smoothness and firm support of its extremity, the mechanism of the screw, and the nice adaptation of its different parts, seem to me to render it a far superior and far preferable instrument to those of Petit and Franco, which may be said to have some resemblance to mine.

BIBLIOGRAPHICAL RECORD.

1. State of an Institution near York, called the "Retreat," for Persons afflicted with Disorder of the Mind. York, 1839.

---

2. Medical Portrait Gallery, Part 20. Price 3s. By Mr. Pettigrew. 1. Memoir and Portrait of Harvey. 2. Ditto of Dr. Marshall Hall.

---

3. The Phrenological Journal, Quarterly. By Hewett Cottrell Watson, Esq. No. VIII. New Series. Oct. 1839.

---

4. Notice sur le Monesia. Paris, 1839.

---

5. Cases of Chronic Hydrocephalus, or Water in the Head; with Observations, and a Detail of a new and successful Plan of Cure. By J. E. Barnard, M.R.C.S. &c. Octavo, pp. 30. London, 1839.

---

6. Medical Miscellany, October, 1839, No. 1. Price 1s. 6d. Monthly. Sherwood and Co.

---

7. The Cyclopædia of Anatomy and Physiology. By Dr. Todd. Part XVIII. Containing Insects—Insectivora. Illustrated with numerous Engravings. Sherwood and Co. 1839.

---

8. Londres Ancien et Moderne; ou Recherches sur l'Etat Physique et Social de cette Metropole. Par A. M. Bureaud-Riofrey, M.D. Octavo, pp. 136. Londres et Paris, Chez Bailliere, 1839.

---

9. Elements of the Theory and Practice of Medicine, designed for the Use of Students and Junior Practitioners. By George Gregory, M.D. Fellow of the Royal College of Physicians, &c. Octavo, pp. 774. Renshaw, Strand; Churchill, Princes-street. Fifth Edition, revised and greatly enlarged.

---

10. The Medical Examiner. Edited by J. B. Biddle, M.D. and W. W. Gerhard, M.D. Published weekly, price 5 dollars per annum. *In exchange.*

☞ *We have received through the kindness of the editors, the numbers of this valuable contemporary up to No.* 41, *Oct.* 12*th*, 1839.

---

11. The Medical Times—a Weekly Journal of English and Foreign Medicine and Medical Affairs. Nos. 1 to 13. Price 3d. 421, Oxford Street. *In Exchange.*

---

12. The Physiognomy of Mental Diseases. By Sir A. Morison, M.D. No. 15. Price 3s. 6d. Dementia.

---

13. The Anatomist's Manual; or a Treatise on the Manner of preparing all the Parts of Anatomy, &c. By J. P. Maygrier, M.D. &c. Translated from the last French Edition. Octavo, pp. 560. George Henderson, London, 1839.

---

14. Text-Book of Anatomy for Junior Students. By Alex. Jardine Lizars, M.D. Part I. Pages 272. Bell and Bradfute. Edinb. 1839.

---

15. On the Practical Use of Inhalations in Diseases of the Throat and Chest. By John Harwood, M.D. F.R.S. &c. Physician to the Dispensary of St. Leonard's. Octavo, pp. 68. Second Edition. Hatchard and Sons, 1839.

---

16. Clinical Remarks on some Cases of Liver Abscess presenting externally. By J. G. Malcolmson, M.D.

---

17. Guy's Hospital Reports, No. 9, Oct. 1839. Edited by G. H. Barlow, M.A. Trin. Col. Camb.; and J. P. Babington, M.A. Trin. Col. Camb. S. Highley, London. 1839.

---

18. The Modern Treatment of Syphilitic Diseases, both primary and secondary, comprising an Account of the New Remedies, with numerous Formulæ for their Preparation and Administration. By Langston Parker, Esq. M.R.C.S. Lecturer on Anatomy, &c. Octavo, pp. 158. Churchill, London. October, 1839.

---

19. Valedictory Address to the Students in Medicine of the College of Physicians and Surgeons, New York. By J. B. Beck, M.D. New York, 1839.

☞ *Excellent advice in affectionate terms.*

---

20. The New York Journal of Medicine and Surgery. Published Quarterly. No. 2.

Oct. 1839. Churchill, London. *In exchange.*

21. Affinities of Plants; with some Observations upon progressive Development, &c. By Thomas Baskerville, M.R.C.S. London, Taylor and Walton. Octavo, pp. 114. 1839.

22. Tea: its Effects, Medicinal and Moral. By G. G. Sigmond, M.D., &c. Octavo, pp. 144. Longman and Co. 1839.

23. A Series of Anatomical Plates. By Jones Quain, M.D. Fas. 75. Price 2s. Taylor and Walton. Oct. 1839.

24. A Practical Treatise on Diseases of the Eye. By William Mackenzie, M.D. Surgeon-Oculist in Ordinary to Her Majesty, in Scotland; Lecturer on the Eye in the University of Glasgow, &c. To which is prefixed, an Anatomical Introduction explanatory of a Horizontal Section of the Human Eye-ball. Third Edition, pp. 933. Glasgow.

25. The Eye; a Treatise on the Art of preserving this Organ in a Healthy Condition, and of improving the Sight, &c. &c. with Observations on the Expression of the Eye as indicative of the Character and Emotions of the Mind. By J. Ch. August. Franz, M.D. &c. 8vo, pp. 296. Churchill, London, Nov. 1839.

26. Obstetric Auscultation. By Dr. H. F. Naegle, M.D. Translated from the German, by Charles West, M.D. Graduate of the University of Berlin. Small 8vo. pp. 120. Renshaw, Nov. 1839.

27. The enlisting, discharging, and pensioning of Soldiers, with the Official Documents on these Branches of Military Service. By Henry Marshall, F.R.S. Deputy Inspector of Army Hospitals. Second Edition. Edinburgh, A. & C. Black. London, Longman & Co. 1839.

28. A Treatise on the Medical Jurisprudence of Insanity. By J. Ray, M.D. With an Introductory Essay. By D. Spillan, M.D. Octavo, pp. 436. G. Henderson, Old Bailey. Nov. 1839.

29. Elements of Physiology. By J. Müller, M.D. Translated from the German, by William Baly, M.D, Illustrated with Steel Plates and Wood Engravings. Second Edition. Part I. General Physiology. Taylor and Walton. Nov. 1839.

30. Remarkable Case of the Effects of Lightning on the Human Body, with Observations on the Nature and Phenomena of Lightning, adapted for general Readers. By John Davies, Surg. to the General Infirmary at Hertford. Price 1s. 1839.

31. West's New Dissecting or Surgical Microscope, mounted in Brass, German Silver, and Silver. Price 8s. 6d., 12s. 6d., or 21s.

☞ *A very useful Instrument for examining diseases of the skin and minute structures, anatomical or pathological.*

32. Surgical and Medical Cases, reprinted from the Medico-Chirurgical Journals, with Observations. By W. Brigham, M.R.C.S. Highley, Fleet Street. 1839.

33. A Lecture introductory to the Business of the original School of Medicine. Peter Street, Dublin. By W. Tagert, M.R.C.S. Dublin, Nov. 1839.

34. Observations on Yaws, and its Influence in originating Leprosy, &c. By James Maxwell, M.D., formerly Surgeon of the Annota Bay Hospital, Jamaica. 8vo, pp. 134. Maclachlan, Stewart, and Co. Edinburgh. Nov. 1839. With Plates.

35. The India Journal of Medical and Physical Science, &c. for March, April, and May, 1839; also the India Review for the same months. *In exchange.*

36. A Treatise on the Diseases of Infants, founded on recent Clinical Observations and Investigations, &c. By C. M. Billard. Translated from the Third French Edition. By James Stewart, M.D.

37. The American Phrenological Journal, No. 11. By Dr. Caldwell. Philadelphia, Aug. 1839.

38. Gazette des Medecins Praticiens. Publié par le Docteur Amedée Latour. No. 41. Published every fifth day. Single Sheet. Paris.

39. Gatherings from Grave Yards; particularly those of London: with a concise History of the Modes of Interment among different Nations, from the earliest Periods; and a Detail of Dangerous and Fatal Results produced by the unwise and revolting Custom of inhuming the Dead in the midst of the Living. By G. A. Walker, Surgeon. Octavo, pp. 258. Longman & Co. November, 1839.

40. Elements of Natural Philosophy; being an experimental Introduction to the Study of the Physical Sciences. By Golding Bird, M.D. F.L.S. &c. Physician to the Finsbury Dispensary, and Lecturer on Natural Philosophy at Guy's Hospital. 8vo, pp. 407. Churchill. Nov. 1839.

☞ *An admirable manual, not merely for medical students, but for medical men of every description.*

---

41. The Physiognomy of Mental Diseases. By Alexander Morison, M.D. No. 16. Idiocy. Price 3s. 6d.

---

42. A Lecture introductory to the Course of Lectures on the Principles and Practice of Medicine, delivered at the Aldersgate Street School, at the Commencement of Session 1839-40. By Robert Willis, M.D. Sherwood and Co. 1839.

☞ *A very able discourse, and such as might be expected from the talented lecturer.*

---

43. Medical Report of the House of Recovery and Fever Hospital, Cork Street, Dublin; for two Years, from Jan. 1837, to Dec. 1838. By G. A. Kennedy, M.D. Dublin. Nov. 1839.

---

44. Transactions of the Royal Medico-Botanical Society of London, 32, Sackville Street. Octavo, pp. 248. Highley, Fleet Street, & Churchill, Princes St. Nov. 1839.

---

45. The Medical Service in India. A Letter from a "Bengal Surgeon."

☞ *We regret that we cannot print this paper (it is indeed already printed) according to the wish of the writer, as it would occupy 20 pages or more of the Journal. We shall endeavour to notice it in our next number.*

---

46. Read's Resuscitator, for restoring Persons in cases of Suspended Animation, from Drowning, Suffocation, Strangulation, Noxious Vapours, Cold, &c. With Apparatus for furnishing a Warm-Air Bath or Vapour-Bath. Manufactured and sold by John Reid, 35, Regent Circus.

☞ *We have seen this Apparatus, which is very ingenious, as are all Mr. Reid's instruments.*

---

47. The Medical Jurisprudence of Insanity. By J. M. Pagan, M.D. Lecturer on Medical Jurisprudence, &c. Glasgow, 8vo, pp. 330. London, Ball and Arnold—Glasgow, John Symington. Nov. 1839.

48. Elements of Surgery. By Robert Liston, Surgeon to the North London Hospital, Professor of Clinical Surgery, &c. Second Edition, greatly enlarged. Longman and Co. 1840.

---

49. A new Treatment of Anchylosis. By Dr. Rea Barton. (From the North American Medical and Surgical Journal.)

---

50. Clinical Report from the Wells Hospital for the Blind and Lame. By Dr. Isaac Hays.

---

51. The final Report of the Committee of the Philadelphia Medical Society, on the Construction of Instruments for the Radical Cure of Hernia, &c. By Robert Chase, M.D. Philadelphia, 1837.

---

52. Memoir of the Life and Character of Philip Lyng Physick, M.D. By John Randolph, M.D. Philad. 1839.

---

53. First Lines of Physiology, designed for the Use of Students in Medicine. By Daniel Oliver, M.D. Boston, 1835.

---

54. The Naturalist's Library. Conducted by Sir W. Jardine, Bart. Mammalia. Vol. IX. Dogs. Including also the Genera Hyæna and Proteles. By Lieut.-Colonel Charles Hamilton Smith. Edinburgh, Lizars. London, Highley, 1839.

---

55. Medical Etiquette; or an Essay upon the Laws and Regulations which ought to govern the Conduct of Members of the Medical Profession in their Relation to each other. Compiled exclusively for the Profession. By Abr. Banks, Esq. M.R.C.S. Small 8vo, pp. 104. Fox, Paternoster Row. Dec. 1839.

---

56. A Compendium of Materia Medica, Pharmacy, and Toxicology; containing Tables of the Materia Medica and Chemical Decompositions, &c. &c. for the Use of Medical Students. By D. Spillan, M.D. Duodecimo, price 2s. G. Henderson, Old Bailey. Dec. 1839.

---

57. Observations on Medical Education, with a View to Legislative Interference. By Richard Jones, M.R.C.S. and late of the Hon. East India Company's Service. Octavo, pp. 52. Dedicated, by permission, to Sir Robert Peel, Bart. Murray, Albemarle Street. Dec. 1839.

THE

Medico-Chirurgical Review,

No. LXIV.

[No. 24 of a Decennial Series.]

JANUARY 1, TO APRIL 1, 1840.

MEDICAL BIOGRAPHY.

I. MEMOIRS OF THE LIFE OF SIR HUMPHRY DAVY, BART. LL.D. F.R.S. &c. &c. By his Brother, *John Davy,* M.D. F.R.S. Pp. 475. London, 1839.

II. BIOGRAPHICAL MEMOIRS OF THE MOST CELEBRATED PHYSICIANS, SURGEONS, &c. &c. By *Thomas Joseph Pettigrew,* F.R.S. &c. &c. Parts 22, 23, 24. Price 3s. each Part.

III. A MEMOIR OF THE LIFE AND CHARACTER OF PHILIP S. PHYSICK, M.D. By *J. Randolph,* M.D. Philadelphia, 1839.

IT is true that we cannot claim Sir Humphry Davy as strictly one of ourselves, or cite his life as the life of a physician. But chemistry is so integral a part of medicine, or, at all events, so linked with it, that its progress touches us deeply, and its professors must as warmly interest us. It is to chemistry, perhaps, that we must mainly look for any material advances in physiology, if not in the practice of physic, and the ties that bind the sciences cannot be drawn too close. These considerations warrant us, we conceive, in turning to the life of Sir Humphry Davy, and in tracing the career of one, who has influenced so materially the fortunes of modern philosophy.

The memoirs before us form the first of four volumes, which, when complete, will contain the collected works of Sir Humphry. The edition promises from the samples before us (we have received the second volume, which consists of Davy's early miscellaneous papers, &c.) to be one of a satisfactory and valuable character; and we have much pleasure in paying, by anticipation, this compliment to the fraternal piety of Dr. Davy, and this act of justice to an editor.

As Dr. Davy observes, the most important part of the history of a man of science is necessarily recorded in his works. But a very interesting part, and a not uninstructive part, is that comprised in his life. It seems a sort of first principle of our nature to be inquisitive about the private history of men, who have made themselves in any way conspicuous. There is a sort of curiosity to learn if those who have soared above common mortality in public life, have shewn themselves different from it in domestic life—have felt its charities, betrayed its weaknesses, and ate, and drunk, and slept, and talked, as ordinary people do. This contrast between the public and the private man is wanted to complete the picture. And it must be owned that it often tends to reconcile the humble with their lot; and to shew that those qualities which conduce, beyond all others, to human happiness, moderation of desires and prudence of conduct, are far from necessary accompaniments of genius. But we turn to Sir Humphry Davy.

He was the eldest son of Robert and Grace Davy. His native place was Penzance, on the shore of the Mount's Bay in Cornwall. He was born on the 17th of December, 1778, at five o'clock in the morning, as is certified in the cover of a large family Bible, in the handwriting of his father. He was christened on the 22nd of January of the following year, and was nursed by his mother. He was a healthy, strong, and active child, and in every respect forward. We are not told of any lambent flame playing round the infant's cradle, but the baby philosopher talked early, walked early, had a wonderful memory, and, like Pope, he—

> "Lisped in numbers, for the numbers came."

How much, not of what we *know*, but of what we feel, and do, may be traced to school and school-boy days. A "public-school-man" may generally be distinguished from a "private-school-man" or a "private-tutor-man," by his confident manner and bolder bearing. How many a gallant spirit has been cowed by the pedagogue's petty tyranny—how many a noble mind has been cramped by the cold formality of the—

> "Dull dry lesson daily got by rote."

It has been said that the character of a nation depends upon its mothers. It is only an extension of the same idea to assert that a nation's character depends upon its school-masters. For the school-master carries on the mother's work, and, surely, at a still more momentous epoch of our history. What bigotry, what false respect for forms, what hatred of innovation, what prejudice for obsolete ideas, may not we owe to our school-masters. Those who are to educate the nation, the nation should first take care to educate.

The first school that Master Humphry was sent to, was that of a Mr. Bushell, at which reading and writing only were taught. This master, then an old man, remarking the rapid progress of his young pupil, in a very disinterested manner, recommended the removing him (he was then six years old) to the grammar-school. This school was kept by the Rev. Mr. Coryton, a man of irregular habits, and ill-fitted for the office of teaching youth, and as deficient in good method as in sound scholarship. He was generally careless, indiscriminating, and indulgent in regard to the manner in which the boys performed their exercises; but occasionally severe, acting the tyrant, and punishing heavily slight offences. Pulling the boys' ears was practised by him in the most capricious manner, and Davy was too frequently a sufferer from this infliction. It is recorded of him that, on one occasion, he appeared before Mr. Coryton with a large plaster on each ear, and that, when asked by his master what was the matter with his ears, he replied, with a grave face, that he had "put the plasters on to prevent a mortification." Yet, in after-life, he was inclined to believe that Mr. Coryton had done him no harm. In a letter to his mother, written in 1802, he makes some inquiries respecting his brother, then at school at Helston, and asks—"Does John like Latin and his school, now the novelty of the first impression is passed away? I recollect I was rejoiced when I first went to Truro school, but I was much more rejoiced when I left it for ever. Learning naturally is a true pleasure: how unfortunate then it is that in most schools it is made a pain? Yet Dr. Cardew comparatively was a most excellent master. I wish John may have as good a one. After all, the way in which we are taught Latin and Greek does not much influence the important structure of our minds. I consider it fortunate that I was left much to myself when a child, and put upon no particular plan of study, and that I enjoyed much idleness at Mr. Coryton's school. I perhaps owe to these circumstances the little talents that I have, and their peculiar application. What I am I have made myself; I say this without vanity, and in pure simplicity of heart!" And we dare say that Davy was right.

His biographer communicates some interesting particulars of his boyish habits.

> " During the early part of his life, to which he thus refers the formation of the bias of his character, he was more distinguished out of school and by his comrades than for any great advance in learning. Within school the stimulus was wanting to exertion. He appears to have taken the lead in his class, and to have been satisfied; or rather, as may be inferred from what has been mentioned, disgusted, with the uninviting form in which classical knowledge was offered to him, and the repulsive circumstances accompanying it. From his facility in composing Latin and English verse, his assistance was often requested, even by boys much older than himself, in these exercises; and in writing valentines and love-letters he shone so pre-eminently, and gave his aid so willingly, that he is said to have been generally resorted to on all emergencies of boyish loves. Another cause of popularity amongst his comrades was his power of diverting by telling them stories; and so attractive were the stories, commonly of wonder and terror, which he related, that they were in the habit, in an evening, of collecting at a particular place to wait for him, as under the balcony of the Star Inn, which afforded shelter, and where, if there happened to be a cart, he would get into it, and hold forth to his young audience. His stories, greatly embellished by his invention, were collected partly from books, especially the 'Arabian Nights,' of which he was ever very fond, and partly from old people, with whom he was a great favourite, particularly from his grandmother Davy;—a woman of a fervid and poetical mind, of a retentive memory, and who had at command a rich store of traditions and marvels. His other boyish tastes and pursuits, like the preceding, followed him into manhood. Fishing was very early a favourite amusement of his; indeed, his taste for it appears to have been almost instinctive. When a child he used, with a crooked pin tied to a stick by a bit of thread, to go through the movements of the angler, and fish in the gutter of the street in which he lived. The earliest indication that I am aware of, which he showed of his fondness for experimenting, for which he was afterwards so distinguished, was in making fire-works. My eldest sister very well remembers, that she was his assistant in this undertaking, and that their workshop was an unfurnished room, in which, in bad weather, the Rev. Dr. Tonkin (the elder brother of Mr. John Tonkin, his early benefactor), then advanced in age, and a valetudinarian, took exercise on his chamber-horse, a large arm-chair attached to spring boards, which boards served for a table for compounding the ingredients of the squibs and crackers." 6.

In the lad with " crooked pin and thread" might be seen by those who could read the hieroglyphic page of human character, the enthusiastic author of a future Salmonia, and the squibs and crackers were the earliest experiments of the neophyte discoverer of potassium. Amidst all this fun, with St. Michael's Mount and the deep blue sea before him, the boy who seemed so thoughtless was cherishing that ardent love of Nature which appears to be a very part of genius; at least of that genius which yearns after philosophy. He roamed amidst the romantic scenery around him, carrying with him his fishing-rod and gun, and interrogating Nature in this sportsman fashion. He was a gardener too, and collected and painted birds and fishes, many, no doubt, of his own killing. To those about him Humphry was no prodigy. Many such another boy has lived, and died, and done nothing for the world, and the world nothing for him. The genius was there, as it was in Davy—for that genius to bear fruit, circumstances must shine upon it.

Davy went to Dr. Cardew's school when fourteen years old, on the 15th of January, 1793. He left it in December of the same year, and, at the age of fifteen, his school education was finished, his self-education about to begin. And it began with a time of trial. Like one of his own birds, he hovered for awhile round the tree of science before he settled on it. He returned to Penzance, rode and fished, and strolled even more than before, and bade fair to be a denizen in the castle of indolence. But his father's health declined, and in December 1794, he died. This must have brought serious thoughts to the son's mind, thoughts, perhaps of time misspent, of an uncertain future. He chose a profession (our own), and on the 10th of February 1795 (the date of his indenture), he was apprenticed to Mr. Bingham Borlase, a man of talent, then practising as a surgeon and apothecary in Penzance, who afterwards received a diploma, and was distinguished as a physician.

And now the energy which sport had formed, or rather which had broken out in sport, was applied in earnest. His note-books were commenced, and the earliest of them, bearing the date of this year, is, in every respect curious. It is a small quarto, with parchment covers: on one of the covers, on the outside, is the figure of an ancient lyre, drawn with his pen, and, on the other, an olive wreath encircling a lamp; as if in anticipation of his great discovery of confining flame in the safety-lamp. At the commencement of it is the following plan of study.

1. Theology.
    Or Religion, } - { taught by Nature.
    Ethics, or moral virtues } { by Revelation.
2. Geography.
3. My Profession.
    1. Botany.
    2. Pharmacy.
    3. Nosology.
    4. Anatomy.
    5. Surgery.
    6. Chemistry.
4. Logic.
5. Language.
    1. English.
    2. French.
    3. Latin.
    4. Greek.
    5. Italian.
    6. Spanish.
    7. Hebrew.
6. Physics.
    1. The doctrines and properties of natural bodies.
    2. Of the operations of nature.
    3. Of the doctrines of fluids.
    4. Of the properties of organised matter.
    5. Of the organisation of matter.
    6. Simple Astronomy.
7. Mechanics.
8. Rhetoric and Oratory.
9. History and Chronology.
10. Mathematics.

This is pretty comprehensive for an apothecary's apprentice at the Land's End. But that apprentice was a bit of a visionary, and dreamt, we dare to say, some such dreams as bewildered the "last days of a philosopher."

> "To give some distinct idea of the bent of his studies at this time, I shall notice briefly the principal topics which appear in this MS. volume. It opens with 'Hints towards the Investigation of Truth in Religious and Political Opinions, composed as they occurred, to be placed in a more regular manner hereafter.' His first essay is 'On the Immortality and Immateriality of the Soul;' the second bears the title of 'Body, organised Matter;' and his third is 'On Governments.' Then there follows:—'On the credulity of Mortals;' next, 'An Essay to prove that the Thinking Powers depend on the Organisation of the Body;' next, 'A Defence of Materialism;' next, 'An Essay on the ultimate End of Being;' next 'On Happiness;' then 'On Moral Obligation.' These topics occupy rather more than one half of the book; the other part, which appears to have been written after, commences at the opposite end, inverted. The subjects treated of occur in the following order:—'Theology;' 'The Christian Religion not repugnant to true Philosophy;' 'An Essay on the Influence of Climate on national Manners and Happiness;' 'On Friendship, an Essay;' and besides these, which are the principal contents of the book, there are some verses, and the beginning of a romance, called '*An Idyl,*' in prose, in the form of dialogue; the characters, 'Trevelis, a warrior, and friend of Prince Arthur, and Morrobin, a Druid; the scene, a 'cliff at the Land's End, in Cornwall; and the time, night.'" 14.

If young Humphry could have written any thing good on any one of all those subjects, he need never have discovered the safety-lamp to give him fame. And if he could have solved but one of his problems, he would have had all the immortality the *world* can offer.

At this time, he was a sceptic in religion, and a sophist in knowledge. He put creeds into syllogisms, decided the question of the immortality of the soul by a formula, and dogmatised in sciences of which he could scarcely know the first principles. With the lapse of years came a change of sentiments, and the man who began as a matter of fact materialist, ended, as all who have read the "Consolations" know, as a Spiritualist of the most sublime description. As a matter of curiosity we subjoin his early argument for, his later one against, materialism. The greater force of truth will be evident on the nobler side.

Let us listen to the bold materialist, at the age of sixteen years and a half.

> "If we trace the progress of the thinking powers from their original source, we shall find that they owe their being to perception. A child, when it first comes into the world, is without ideas, and consequently, he does not think. All the actions he performs arise from instinct. When hunger calls him he satisfies his cravings with the milk of his mother; nor does he at all differ from the most stupid animal, only in being more helpless. He possesses but a small degree of perception; his attention is awakened with difficulty; the memory is weak and faint; and the ideas, without being often repeated, are not retained. As the child advances in years, the nerves become firmer and the brain stronger; perception is quicker, and the memory is more tenacious and retentive. Judgment, the result of perception and memory, is displayed: by degrees reason as slowly advances; and, lastly, disposition, the boundary of human intelligence, appears. Gradual is the progress of mind from sense to science. When the mental faculties have reached their highest perfection in manhood, they gradu-

ally decline; and nought is left of all the wreck of human knowledge but pure sensation, a principle gradually decaying with the falling frame. From hence there follows a self-evident corollary, that the thinking powers are not always the same: whatsoever is not always the same is naturally changeable, is mortal and material. Besides, we have traced the power of thinking from 0 to 0, increasing with the corporeal powers, and decreasing and ending with them." 16.

Nineteen years and a half afterwards, he wonders at his own presumption and in the same note-book, he combats materialism thus:—

"1. The power of thinking does not naturally belong to matter.

2. Motion, if ever so artfully distributed, it is plain, can produce nothing but motion.

3. Matter acts only in proportion as it moves; thinking is acting without motion; *ergo*, that which thinks is not matter.

4. The universality of the hypothesis.

5. Internal consciousness of the existence of a monadic indivisible soul." 17.

After quoting some further heads of religious arguments or essays, his biographer observes:—It is interesting to compare these his early inquiries on the subject of religion with those he engaged in at a later period, as expressed in his "Salmonia," and "Consolations in Travel." We may trace in the former the germs of many of the latter; and, indeed, the resemblance is often so marked, that the trains of thought have very much the character of recollections: with this marked difference, however, that in youth he considered reason as all-sufficient, whilst in later life he mistrusted it, as inadequate, and built his faith on internal or instinctive feeling, rather than on any process of ratiocination.

And thus, we believe, it will ever be. The forms of reasoning satisfy the mind in youth, because they seem adapted to the discovery of truth, and capable of eliciting it. But frequent disappointment damps our confidence, our syllogisms often fail and not uncommonly deceive, despondency or scepticism takes the place of confidence in cold temperaments, whilst faith and a trust in innate feelings possess enthusiastic ones.

Young Humphry was a poet. What ardent mind has not loved poesy, has not attempted it? His biographer introduces a rather lengthy piece, which bears for its title;—The Sons of Genius. We discern in it that "longing after immortality," which the boy-philosopher felt, almost before he knew it. We shall quote some of the stanzas partly as samples of his poetic powers, partly as evidence of the state and the progress of his character.

"While superstition rules the vulgar soul,
  Forbids the energies of man to rise,
Raised far above her low, her mean control,
  Aspiring genius seeks her native skies.

She loves the silent, solitary hours;
  She loves the stillness of the starry night,
When o'er the bright'ning view Selene pours
  The soft effulgence of her pensive light.

'Tis then, disturb'd not by the glare of day,
  To mild tranquillity alone resign'd,
Reason extends her animating sway
  O'er the calm empire of the peaceful mind.

Before her lucid, all-enlightening ray,
The pallid spectres of the night retire;
She drives the gloomy terrors far away,
And fills the bosom with celestial fire.

Inspired by her, the sons of genius rise
Above all earthly thoughts, all vulgar care;
Wealth, power, and grandeur, they alike despise,—
Enraptured by the good, the great, the fair.

A thousand varying joys to them belong,—
The charms of nature and her changeful scenes:
Theirs is the music of the vernal song,
And theirs the colours of the vernal plains.

* * * * * *

Yet not alone delight the soft and fair,
Alike the grander scenes of nature move;
Yet not alone her beauties claim their care,
The great, sublime, and terrible they love.

The sons of nature,—they alike delight
In the rough precipice's broken steep;
In the bleak terrors of the stormy night;
And in the thunders of the threatening deep.

When the red lightnings through the ether fly,
And the white foaming billows lash the shores;
When to the rattling thunders of the sky
The angry demon of the waters roars;

And when untouch'd by Nature's living fires,
No native rapture fills the drowsy soul;
Then former ages, with their tuneful lyres,
Can bid the fury of the passions fall.

By the blue taper's melancholy light,
Whilst all around the midnight torrents pour,
And awful glooms beset the face of night,
They wear the silent, solitary hour.

Ah! then how sweet to pass the night away
In silent converse with the Grecian page,
Whilst Homer tunes his ever-living lay,
Or reason listens to the Athenian sage.

* * * * * *

Like the tumultuous billows of the sea
Succeed the generations of mankind;
Some in oblivious silence pass away,
And leave no vestige of their lives behind.

Others, like those proud waves which beat the shore,
A loud and momentary murmur raise;
But soon their transient glories are no more,
No future ages echo with their praise.

Like yon proud rock, amidst the sea of time,
Superior, scorning all the billow's rage,
The living sons of genius stand sublime,
The immortal children of another age.

For those exist whose pure ethereal minds,
Imbibing portions of celestial day,
Scorn all terrestrial cares, all mean designs,
As bright-eyed eagles scorn the lunar ray.

Theirs is the glory of a lasting name,
The meed of genius, and her living fire;
Theirs is the laurel of eternal fame,
And theirs the sweetness of the muse's lyre."

Here are certainly the aspirations after philosophy and fame, which, in coming years, were to make both his own.

In 1796, he entered on the study of mathematics. One book is almost entirely confined to this subject; and in it, his progress may be traced through the following branches, which he enumerates under the head of "Mathematical Rudiments;" viz., "Fractions, vulgar and decimal; Extraction of Roots; Algebra (as far as quadratic equations), Euclid's Elements of Geometry; Trigonometry; Logarithms; Lines and Tangents; Tables; Application of Algebra to Geometry," &c. He entered upon Fractions, February 8th, 1796; and he appears to have finished the elementary course which he assigned himself in little more than twelve months, for the last date is January 2, 1797, when he was commencing the eleventh book of Euclid, and he had gone through most of the other branches.

In this study, his biographer informs us, he was very systematic; the propositions are all entered very neatly, and the demonstrations given; the diagrams are invariably done with a pen, without the aid of mathematical instruments, not even of a common compass and ruler, except in one or two instances. This circumstance of itself would show that he engaged in these studies without a master, which was the fact, and perfectly voluntarily on his part, from the conviction of their usefulness preliminary to the study of physical and chemical science.

Davy was very fond of metaphysics, and appears to have been acquainted with the writings of Locke, Hartley, Bishop Berkeley, Hume, Helvetius, Condorcet, Reid and his followers, as well as, in some measure, with the doctrines of Kant and the Transcendentalists. It is rather amusing to read the titles of Davy's papers, of the works that he began—we need not add, that he never finished. Had he only completed one of them, and he seems to have commenced some scores, he would have done the work of a lifetime. At Penzance, for instance, we find him composing "Observations relating to Existence," a pretty comprehensive theme.

If, to parody the well-known epigram, his metaphysics were physic, his physic was very metaphysical. His biographer admits that the professional studies of which he left any memoranda were chiefly theoretical, relating to physiology, in which he pursued a path similar to that he first followed in metaphysics and religion,—being a process of abstract reasoning founded on a few principles, or abstract terms, by which, like Hartley and Brown, he attempted to explain all the phenomena of life. How lucky that he found all this to be fallacious.

In 1797, he seems to have gone in earnest to the study of natural philosophy. The billiard-table had previously given him some ideas, and furnished some not uninteresting experiments on the laws of the collision of bodies. But billiard-balls and natural philosophy too were doomed to give way to something which should immortalise Davy, and receive, itself, a strong impress from his mind—we allude, of course, to chemistry, the study of which he began in November or December of this year, when he was just nineteen.

> " Several incidents, which will be mentioned hereafter, enable me to fix the time with precision. He appears to have entered on this study merely as a branch of his professional knowledge, and to have followed it at first chiefly theoretically. His early chemical reading was confined to two works of a very different description,—'Lavoisier's Elements of Chemistry,' and 'Nicholson's Dictionary of Chemistry,'—the one distinguished for its admirable logic, precision of reasoning, and boldness of speculation compared with any that had preceded it; the other an indifferent collection of facts and opinions, of various times and merit,—a kind of border tract between the old and new doctrines, and hardly worthy of the name of the author it bore. This new study seems very soon to have excited in his mind a most lively interest. He was not satisfied with merely reading, and acquiring the ideas of others; he criticised the theoretical views of the great French philosopher; doubted, rejected, and advanced speculations of his own. And speculation appears to have led him to experiment, and experiment to further speculation, with such rapid progress, that in a few months he formed a new hypothesis, and flattered himself that he had triumphed over an important part of the doctrine of the French school." 33.

His experiments were limited by his means, and not more extensive than those with which Priestly and Scheele began. His apparatus would appear to have consisted chiefly of phials, wine-glasses, and tea-cups, tobacco-pipes, and earthen crucibles; and his materials were chiefly the mineral acids and the alkalies, and some other articles which are in common use in medicine. He began his experimental trials in his bed-room. Here there was no fire, and when he required it, he was obliged to come down to the kitchen with his crucible. His experiments were at first simple, and valuable only from making him familiar with his tools, and nourishing his enthusiasm for his science. The rapidity, says his biographer, with which he advanced in his new pursuit is strongly indicated by the circumstance that, in the April following, in the short space of four months, he was in correspondence with Dr. Beddoes, relative to his researches on " Heat and Light," and a new hypothesis on their nature, to which Dr. Beddoes became a convert. The results of these researches were the chief subject of his first publication, " Essays on Heat and Light," &c., which appeared in 1799, and were in part written a few months after he had commenced the study of chemistry. For he carried to that all the powers of a strong mind, and the force of an ardent enthusiasm. And he became acquainted with Mr. Gregory Watt, son of the elder Watt, and with Mr. Davies Gilbert. With them he examined the rich mines, and the produce of the land and sea. If he did not study medicine in the right way he practised it; for—

> " It would appear that he applied himself with earnest zeal to his professional studies and duties, and that he gained equally the good opinion of Mr. Borlase and of his patients, especially of the poorer class, to whom he showed particular kindness. Mr. Borlase's high opinion of him, and estimation of his deserts,

was proved by an act of generous kindness, which will be noticed in its place; and this gentleman's sister, Mrs. Foxell, bears testimony to the humane way in which he behaved towards those in humbler life. She has told my sister, that, 'in all cases of distress, she used to call upon him, and always found him ready to render every assistance in his power; and that she had often heard him say that he wished to make himself useful to his fellow-creatures.'" 41.

He read Shakspere, and Milton, and Gibbon, fished, shot snipes, and winged woodcocks, and was altogether a very happy fellow, more happy, we dare say, than at many a soirée of the Royal Society, when aristocratic acquaintances had dammed up in some sort the impulses of youth and nature. He writes in one of his note-books:—"I have neither riches, nor power, nor birth to recommend me; yet, if I live, I trust I shall not be of less service to mankind and to my friends than if I had been born with these advantages." And his mind is portrayed in a fragment which he left, representing, no doubt, his actual feelings:—"I gradually became conscious of my powers, by comparing them with those of others. That solitary enthusiasm, however, which constituted my independence was never lost. I was no longer anxious to know what others thought of me, and I panted little after the breath of fame. Hence, agitated by no passion but the love of truth, the desire to see things in their real light counteracted every other desire. My conversations were plain and simple; I perceived that circumstances and the development of my moral powers had produced, or, rather, gradually unfolded, a new moral character. It was this character that I sought to improve, by casting from me every trait of hypocrisy and concealment. I considered all my possible relations with men, and I found no one which could again possibly turn me over to dependence." These early aspirations were hardly, we fear, realized.

Soon after his correspondence with Dr. Beddoes began, the latter offered him the situation of superintendent of the Pneumatic Institution, which had been established at Clifton for the purpose of trying the medicinal effects of different gases. After some negociation respecting the terms of the appointment (in which Mr. Davies Gilbert aided him in a very friendly manner), he gladly accepted it, with the consent of all his friends, excepting Mr. John Tonkin (who had hoped he would have settled at Penzance), and with the approval of Mr. Borlase, who (the period of his apprenticeship not being expired), in a very generous manner, released him from "all engagements whatever, on account of his excellent behaviour;" adding, "because, being a youth of great promise, I would not obstruct his present pursuits, which are likely to promote his fortune and his fame." And on the 2d of October, 1798, he left his home, to enter upon his public career, before he was twenty years old.

Everybody has heard of Dr. Beddoes, and of his pneumatic institution. Few have seen him, and many, we dare say, would like a view of his portrait, painted by *young* Humphry and *Sir* Humphry Davy. Thus young Humphry, just settled at Clifton, limns him and his wife.

"Now for the inhabitants, and first, Dr. Beddoes, who, between you and me, is one of the most original men I ever saw—uncommonly short and fat, with little elegance of manners, and nothing characteristic *externally* of genius or science; extremely silent, and in a few words, a very bad companion. His behaviour to me, however, has been particularly handsome. He has paid me the highest compliments on my discoveries, and has, in fact, become a convert to my theory, which I little expected. He has given up to me the whole of the business of the Pneumatic Hospital, and has sent to the editor of the Monthly Magazine a letter to be published in November, in which I have the honour to be mentioned in the highest terms. Mrs. Beddoes is the reverse of Dr. Beddoes—extremely cheerful, gay, and witty; she is one of the most pleasing women I ever met with. With a cultivated understanding, and an excellent heart, she combines an uncommon simplicity of manners. We are already very great friends. She has taken me to see all the fine scenery about Clifton; for the Doctor, from his occupations and his bulk, is unable to walk much." 46.

And thus Sir Humphry, just about to shuffle off his own mortal coil, paints the likeness of an old friend :—

"Beddoes was reserved in manner, and almost dry; but his countenance was very agreeable. *He was cold* in conversation, and apparently much occupied with his own peculiar views and theories. Nothing could be a stronger contrast to his apparent coldness in discussion, than his wild and active imagination, which was as poetical as Darwin's. He was little enlightened by experiment, and, I may say, little attentive to it. He had great talents, and much reading, but had lived too little amongst superior men. On his death-bed he wrote me a most affecting letter, regretting his scientific aberrations. I remember one expression: 'Like one who was scattered abroad the *avena fatua* of knowledge, from which neither branch, nor blossom, nor fruit has resulted, I require the consolations of a friend.' Beddoes had talents which would have exalted him to the pinnacle of philosophical eminence, if they had been applied with discretion." 49.

How harsh, and how unjust was that *mot* upon Beddoes—"he was the discoverer of one thing, for he was the discoverer of Davy." There was good society at Clifton at that time, something more than the old women who, at present, seem to form nine-tenths of the inhabitants. There met then at Beddoes' house, Southey, and Coleridge, and Tobin, and the late Mr. Poole. Young Davy was among kindred spirits.

In the beginning of 1799, writes his biographer, he took up his residence in a house in Dowery-square, Clifton, which was provided with a laboratory, and fitted up for the purposes of the institution. Here he applied himself with the greatest assiduity and zeal to various research;—as to the completing his experiments for, and finishing his essays on Heat and Light, before alluded to, which were published this year; the determining of the nature of the epidermis of the hollow plants,—an investigation he undertook in consequence of the accidental observation of a child;—but, above all, investigating the effects of the gases in respiration. Of these, the nitrous oxide was one of the first he experimented upon. Its agency he found to be of a very novel and wonderful kind, contrary to all expectation, and almost exceeding belief. The discovery gave a particular direction to his inquiries, and may be considered as the origin of that work which contained their results, and which established his character as a chemical philosopher. It was published in the Summer of 1800. Even before it was out of the press, he had embraced another train of research, new and most important;—he had begun that series of galvanic experiments which ultimately led to some of his greatest discoveries.

Dr. Davy adds, and his general observations are characterised by much truth :—

"In regard to the formation of his scientific character, this was a very critical period of his life; and it is well shown in the manner in which he treated the different subjects of inquiry to which I have briefly alluded. He started in his career of chemical inquiry, as he had before done in metaphysical, in all the presumption of youthful daring, with undue confidence in his speculations, and in speculation in general. His first published essays on Heat and Light are very characteristic, as the bold attempts of an original and enterprising mind, and bearing the stamp, at the same time, of youth and of genius,—in the faults belonging to the one, and the redeeming qualities of the other, marked, as they are by invention, by a certain strength and precision of reasoning power, and by much ingenuity both of ideas and experiments, and also by want of caution, and the precipitancy of a very young man, which sometimes appears as a defect of modesty. He himself, with surprising rapidity, detected the errors into which he had fallen; and he did so probably mainly in consequence of the other researches in which he immediately engaged, of a description fitted to afford precise results—and yet such that no ingenuity *à priori* could have conceived, and some of them so singular and surprising, that no imagination could have invented. He must now have become acquainted practically with the value of the Baconian maxim,—that first aphorism of the 'Novum Organum Scientiarum,'—'Homo Naturæ minister, et interpres, tantum facit et intelligit quantum de Naturæ ordine re vel mente observaverit: nec amplius sit, aut potest.' Indeed I am disposed to think, that after the publication of these essays, he almost immediately acquired, and for a short time felt, even an undue aversion to hypothesis. His own opinions expressed respecting these essays are strongly indicative of his altered views. 'I began the pursuit of chemistry by speculations and theories: more mature reflection convinced me of my errors, and the limitation of our powers, the dangers of false generalization, and the difficulty of forming true ones.' This I find written in darker ink between the lines of a note-book kept in 1799, consisting chiefly of speculative views concerning the connexion of life and chemical action, or of physiology and chemistry. In another place, bearing date of August of the same year in which his essays appeared, is the following reflection:—'When I consider the variety of theories that may be formed on the slender foundation of one or two facts, I am convinced that it is the business of the true philosopher to avoid them altogether. It is more laborious to accumulate facts than to reason concerning them; but one good experiment is of more value than the ingenuity of a brain like Newton's.' And, in the same note-book, written about the same time as the preceding, alluding to his essays, he says, 'I was perhaps wrong in publishing with such haste a new theory of chemistry. My mind was ardent and enthusiastic. I believed that I had discovered the truth. Since that time my knowledge of facts is increased,—since that time I have become more sceptical.'" 55.

All this is indicative of a strong mind. A weaker one would have gone on floundering in hypothesis, and bewildered in the maze of words and mysticism, that form the tangled web of transcendental philosophy. Davy, however, perceived the utter futility of this, although it is evident, from detached papers, and from his last works, that his early predilection for metaphysical abstractions, and speculations de omnibus rebus et quibusdam aliis, was only mastered by an effort, put off when he put on his working dress, and worn with his morning gown and slippers, perhaps with his pumps and silk stockings. However this may be, it is certain that he saw the true road to chemical, as to all other discoveries in the natural sciences, namely, strict analysis and stern induction. This was the secret of Davy's success, and one would have thought there was now-a-days no need of defending this. Yet opinions make their revolutions like the seasons, and few have been so completely overthrown as not to rise again in their turn. Such would seem to be the case with the ancient synthetical method. It has revived, or threatens to revive, in Germany, and its fruits may be looked for in a goodly crop of unintelligible theories. But Davy, as a working man, took a different view, and resolved to analyse and to observe strictly. "The perfection," he thought, (for he noted what he thought) "of chemical philosophy, or the laws of corpuscular motion, must depend on the knowledge of all the simple substances, their mutual attractions, and the ratio in which these attractions increase or diminish, with increase or diminution of temperature. These being ascertained, chemistry would become a science so far generalised as to enable calculations to be formed with regard to the result of any new apposition of particles. The first step towards these laws will be the decomposition of those bodies which are at present undecompounded." The bodies alluded to were the fluoric, muriatic, and boracic acids, the alkalies, and earths; the elements of all which, in a few years from this time, he succeeded in developing: and even at this time he attempted it in regard to the acids. But the attempts were failures, partly no doubt from his inexperience, partly from the insufficiency of means.

> "The extraordinary zeal with which he devoted himself to research at this time, and his great powers of application, are forcibly shown in the rapidity of his labours. His 'Researches' were published in the summer of 1800; a work so laborious might have sufficed for the life of an ordinary man; the materials of it were collected and put together in an almost incredibly short time. In a note-book now before me, there is a rough draft of a preface, in which he says, 'These experiments have been made since April, 1799, the period when I first breathed nitrous oxide. Ten months of incessant labour were employed in making them; three months in detailing them.' So intense indeed was his application, and so little his regard for health or even life, which was often endangered, and once nearly lost from the breathing of carburetted hydrogen, that he was under the necessity of leaving the laboratory for a time, when most anxious to complete his inquiries, and seek the renewal of health and strength in his native air." 58.

He remained at Penzance a month, fished, shot, rambled, and wrote poetry as usual, and took with him a case of chemical apparatus considerably larger than the one which, some years after, he carried with him on his continental travels. He returned in due time to Bristol, and wrote all sorts of things, or, rather, he resolved to write them, for many were begun, and none, so far as we can see, were ended. It would be hard indeed, if they were.

From the thousand and one scraps produced by him, and preserved in part by his biographer, we shall only quote his theory of dreams.

> "Our waking existence is composed of impressions, ideas, and feelings, of different degrees of vividness, which succeed each other in what may be called trains. The past is simple memory, the future is analogy, and the present is made up of impressions, sometimes, though rarely, simple, but often mixed or associated with the past and the future. In dreams, all the ideas occurring seem to be of one degree of vividness. There is neither past nor future, no mixture of impressions with ideas; the feelings occur as in waking, though seldom connected with what may be called the secondary reflective feelings, those produced when an action, at first pleasant, after a time becomes the contrary. The mixtures of memories and analogies, which are mingled, in waking, by the peculiarly

modifying and connecting impressions in the order of nature, are here called up and modified only by slight organic feelings; generally so slight as to lose their independent existence, and can only be traced by impressions which are connected with them." 63.

This theory is itself somewhat dreamy. If any body understands any more of dreams, on reading it, than he did before, he must understand it better than we do. Amongst other things, Davy sketched the programme, and executed fragments of a poem in blank verse, named "Moses," the the subject being the deliverance of the Israelites from Egypt. Some of the passages are really rich in poetic beauty. Take one:—

> "And loud she struck the harp, and raised the song,
> Her ebon tresses waving in the wind;
> Her dark eye sparkling, and her bosom
> Throbbing with transport high.—'Thou, thou art he,
> The chosen one of God,—the man foretold
> The saviour of thy people. Prophet chief,
> And lawgiver of Israel! at thy birth
> Deliver'd to the waters, yet preserved,
> By hand unhallow'd,—from the royal pomp
> Of Pharaoh, and the dark idolatry
> Of Egypt's kingdom led to know thy God,
> In nature and in solitude to feel
> His mighty inspirations! Go then forth:
> In all the high unbroken strength of hope
> Proclaim the Eternal One,—declare his will.
> Let Egypt and the kindred nations know
> That *He alone* is God!—that He will free
> In terror and in wrath his chosen seed,
> Exalt the oppressed, tread the tyrant low,
> And scatter as the sand upon the blast
> The people that rebel against His will.
> Go forth his servant,—go deliverer!"

An epoch in his life was approaching, for, at the recommendation of Dr. Hope of Edinburgh, Count Rumford applied to him to fill a situation at the Royal Institution. In a letter to his mother, he writes:—"You have, perhaps heard of the Royal Philosophical Institution, established by Count Rumford, and others of the aristocracy. It is a very splendid establishment, and wants only a combination of talents to render it eminently useful.

Count Rumford has made proposals to me to settle myself there, with the present appointment of assistant lecturer on chemistry, and experimenter to the Institute; but this only to prepare the way for my being in a short time sole professor of chemistry, &c.; an appointment as honourable as any scientific appointment in the kingdom, with an income of at least £500 a-year."

In March, 1801, the engagement was actually concluded, and Davy was settled in London. At first he was only assistant lecturer, and director of the laboratory, but on the 31st of May, 1802, he was formally appointed Professor of Chemistry.

In the Spring of 1801, he delivered his first lecture. It appears to have excited a sensation, which his subsequent ones kept up. The following accounts of them by auditors will be read with some degree of interest.

> "Sir Joseph Banks, Count Rumford, and other distinguished philosophers, were present. The audience were highly gratified, and testified their satisfaction by general applause. Mr. Davy, who appears to be very young, acquitted himself admirably well. From the sparkling intelligence of his eye, his animated manner, and the *tout ensemble,* we have no doubt of his attaining distinguished excellence.
>
> 'The sensation created by his first course of lectures at the institution,' says Mr. Purkis, 'and the enthusiastic admiration which they obtained, is at this period hardly to be imagined. Men of the first rank and talent,—the literary and the scientific, the practical and the theoretical,—blue-stockings and women of fashion, the old and the young, all crowded, eagerly crowded the lecture-room. His youth, his simplicity, his natural eloquence, his chemical knowledge, his happy illustrations and well-conducted experiments, excited universal attention and unbounded applause. Compliments, invitations and presents were showered upon him in abundance from all quarters; his society was courted by all, and all appeared proud of his acquaintance.'" 80.

If Davy *was* spoilt, who could wonder at it? For a man of his ardent temperament, he was in as dangerous a situation as could be. However, he succeeded as a lecturer completely. He was made of the stuff to do so. He had enthusiasm, that was the great point. Nobody ever did, and nobody ever will move others, who remains unmoved himself. A man who does not feel burlesques feeling, and for one to appeal to our passions who evinces none, is to put a sort of affront upon us, or, rather, to tell us to laugh or to cry, at the very instant that his own example shews the absurdity of either. Enthusiasm even redeems extravagance, and, awakening sympathy, it throws a veil over defects.

It must not be supposed that good lecturers are ready made, or that there are heaven-born popular speakers any more than there are heaven-born shoemakers or tailors. Eloquence, if partly a gift, is fully as much an acquirement. We will not go back to Demosthenes or Cicero, who worked, like cart-horses, at their craft, but content ourselves, with our actual hero, Mr. Davy. His brother observes :—

> "I shall make a few remarks, conveying the impression which they have left on my mind, and recording the manner in which they were conducted. He was always in earnest; and when he amused most, amusement appeared most foreign to his object. His great and first object was to instruct, and, in conjunction with this, maintain the importance and dignity of science; indeed, the latter, and the kindling of taste for scientific pursuits, might rather be considered his main object, and the conveying instruction a secondary one. His lectures were almost invariably written expressly for the occasion, not a repetition of lectures; so that the same audience, year after year, might attend, without being wearied. He commonly wrote his lecture the day before he delivered it. On this day he generally dined in his own room, and made a light meal on fish. He was always master of his subject; and composed with great rapidity, and with a security of his powers never failing him. Latterly, he trusted a good deal to notes; and, excepting on particular occasions, wrote little more than the parts which he wished to make most impressive, especially the beginning and termination. It was almost an invariable rule with him, the evening before, to rehearse his lecture in the presence of his assistants, the preparations having been made and everything in readiness for the experiments; and this he did, not only with a view to the success of the experiments, and the dexterity of his assistants, but also in regard to his own discourse, the effect of which, he knew, depended upon the manner in which it was delivered. He used, I remember, at this recital, to

mark the words which required emphasis, and study the effect of intonation; often repeating a passage two or three different times, to witness the difference of effect of variations in the voice. His manner was perfectly natural, animated, and energetic, but not in the least theatrical. In speaking, he never seemed to consider himself an object of attention; he spoke as if devoted to his subject, and as if his audience were equally devoted to it, and their interest concentrated in it. The impressiveness of his oratory was one of its great charms; in this he consulted only his own taste and feelings; but at the same time, by a considerable portion of his auditors, it must have been received as a compliment to their own taste and feelings, and powers of understanding; and, in giving them credit for acquirements, no doubt many flattered themselves they possessed them, or had a desire excited to attain them. His experiments were devised on the same principle, not of amusing and pleasing, but of illustrating his discourse, and demonstrating either important properties of bodies, or principles of the chemical action of bodies: he took great care that they should not appear to have been introduced for show, and to excite merely wonder, even when most brilliant and wonderful. And his eloquence,—the declamation, as it might be called by some, in which he indulged on the beauty and order of nature, in which he ascended from the works to the great Artificer, and from the admirable design every where apparent to the infinite wisdom of the Author of the universe,—his eloquence, I believe, on these topics was so well received, because it was not affected; merely his own strong impressions and feelings embodied in words, and delivered with an earnestness which marked their sincerity." 93.

Here we see the "eloquent" lecturer practising tolerably hard—dining on fish—writing his lecture—getting the *hits* by heart—rehearsing the performance—studying tones—marking emphasis—going to work, in short, as systematically with a piece of declamation as he would with the preparation of potassium. And he was quite right; for good lectures or good speeches are like all other good things, they are not manufactured without trouble. If we heard the orator in his private room, how much it would mar our opinion of the oration.

We have seen Davy in the lecture-theatre, let us turn to him in the laboratory.

" In the laboratory, where my brother spent a great portion of every day that he was in town and at leisure, he was unremittingly engaged in original experiments; and even in his absence the operations were not suspended, they were continued by his assistants, according to the directions which he had given; and when he returned, he finished the experiment, or examined the results. Nothing was left to memory; an entry was made in a large book, kept for the purpose, of all that occurred, written either by himself, or by an assistant from his dictation; not, indeed, in minute detail, for that would have occupied too much time, but briefly, for aiding the memory, and minutely only in regard to weight and measure, and what was most important and characteristic. In his inquiries there never was any mystery or concealment, but the most perfect openness. The register of experiments was left open; he received his friends in the laboratory, and conversed with them on the objects of inquiry in progress; and however intensely engaged, he was always accessible. I can never forget his manner when occupied in his favourite pursuit; his zeal amounted to enthusiasm, which he more or less imparted to those around him. With cheerful voice and countenance, and a hand as ready to manipulate as his mind was quick to contrive, he was indefatigable in his exertions. He was delighted with success, but not discouraged by failure; and he bore failures and accidents in experiments with a patience and forbearance, even when owing to the awkwardness of assistants, which could hardly have been expected from a person of his ardent temperament. And his boldness in experimenting was very remarkable: in the operations of the laboratory danger was very much forgotten, and exposure to danger was an every-day occurrence. Considering the risks run, and the few, if any, precautions taken against accidents, it is surprising how small a number of injuries were received. The only two serious wounds that I recollect he sustained, were in the hand and eye; the one, from receiving on his hand a quantity of melted potash; the other, from an explosion of a detonating compound. Had his constitution been bad, the use both of hand and eye would probably have been impaired; indeed, the eye ever after retained the mark of the wound inflicted on the transparent cornea, and never perfectly recovered its strength." 96.

This is just what might be expected. It would hardly be supposed that in his private habits he was very systematic. Nor was he.

"Of my brother's mode of living, and of some of his habits whilst he was at the Royal Institution, I shall also speak from my own knowledge. As long as he was a bachelor, he was perfectly satisfied with his rooms at the Institution, in which he considered chiefly utility, and thought little of comfort, and much less of luxury. He showed great carelessness in all that related to their furniture and appearance. These were to him matter of indifference. I believe the furniture was merely what belonged to them when he first took possession, and that he made no addition to it or alteration. The only thing elegant that I recollect in his sitting-room was an ornamental little porcelain Venus, which was a present to him from his early friend, Mr. Wedgewood; it was of his manufacture, and an admirable specimen of art. Letters and papers he very seldom arranged, and his rooms were commonly littered with them. Occasionally they were collected and thrown together in a large cupboard. I remember once his commissioning me to look over this great collection, and to burn such as appeared of no interest. Amongst them were very many letters of the highest compliment, and some of kind advice from anonymous writers, or declared friends, pointing out, on his commencing lecturing at the Institution, what was considered faulty in his manner, and even in his pronunciation. But they were most commonly of a laudatory kind; and of this kind were several copies of verses, written in female hands, showing that he had excited no ordinary interest in their breasts, and that their admiration was of a very exalted kind." 97.

"His way of living during this period was of the most easy kind. Except when preparing a lecture, as already mentioned, he seldom dined in his apartments at the Institution: his invitations to dinner amongst his friends were so numerous that he was, or might have been, constantly engaged; and after dinner he was much in the habit of attending evening parties, devoting the evening to amusement; so that, to the mere frequenters of such parties, he must have appeared a votary of fashion rather than of science. When his pursuits did not keep him in town, he often made short visits to friends residing in the neighbourhood of London, or went to some trout stream, of which there are so many good ones within twenty or thirty miles of the metropolis, and breathed the fresh air by the river side, and enjoyed the country and his favourite exercise and amusement of fishing together.

And during the vacations, when he had some months' leisure, he commonly made longer excursions. At different times he explored most parts of Great Britain, including even the distant parts of Scotland, and the Hebrides; and more than once he travelled through Ireland. His object in these journeys, was partly amusement and the acquiring of general information, and partly the study of the geological structure of the kingdom, and the phenomena of rock-formations in relation to geology as a science, and partly the collecting of agricultural knowledge. He made sketches of remarkable features of rock-scenery, and of peculiarities in their appearance; and he collected specimens of rocks, and minerals, and soils, which were deposited on his return in the museum of the Institution, or in its laboratory for examination. When he lectured either on the subject of geology or agriculture, he availed himself of them, and of paintings made from his sketches, which were not less serviceable in illustrating his descriptions and doctrines than the specimens of rocks and minerals themselves. His power of extracting information was great; it was constantly employed in these excursions, and I believe gave a strong idea of talent and capacity to comparatively uninstructed men." 99.

That Davy, at this time, was happy, may be well conceived. His brother assures us that he was eminently so. Dr. Davy resided at the Institution between 1808 and 1811, and their bed-rooms were only separated by a wainscoat partition. In going to bed, and rising, and sometimes in the dead of night, Dr. Davy used to hear him, in a loud voice, reciting favourite passages in prose or verse, or declaiming some composition of his own, or humming some angler's song. What a bore the lecturer must have been. Yet happy as he was, perhaps, Davy was now laying the foundation of much future chagrin. He was becoming a sort of man of fashion, and was trying to reconcile the aristocratic trifler with the man of science. An impossible task.

He became, at this time, a philosophical tanner, and an agricultural chemist; but it was in electro-chemical science that he engaged heart and hand. In 1801, the Voltaic pile was invented, and water was decomposed by it. Davy's mind was strongly impressed by the discovery, and his experiments with this new and grand agent of solving the mysteries of the natural world were at once begun, and ever after pursued. No great results were obtained at first, (how seldom they are,) but, in 1806, success opened to him. Potassium was obtained on the 6th of October of that year, and sodium a few days after.

"The extreme delight which he felt, when he first saw the metallic basis of potash, can only be conceived by those who are familiar with the operations of the laboratory, and the exciting nature of original research; who can enter into his previous views, and the analogies by which he was guided, and can comprehend the vast importance of the discovery, in its various relations to chemical doctrine; and, perhaps, not least, who can appreciate the workings of a young mind with an avidity for knowledge and glory commensurate. I have been told by Mr. Edmund Davy, his relation and then assistant, now professor of chemistry to the Dublin Society, that when he saw the minute globules of potassium burst through the crust of potash, and take fire as they entered the atmosphere, he could not contain his joy—he actually bounded about the room in extatic delight; and that some little time was required for him to compose himself sufficiently to continue the experiment.

Never, perhaps, was a chemical investigation more intensely interesting than the one under consideration; and never, perhaps, in so short a time were so many new and surprising facts developed. The Bakerian Lecture in which they are described attests this most fully; it occupies forty-four quarto pages, and almost every page contains a new result. Notwithstanding it was a first sketch, and relating to phenomena altogether new and marvellous, it scarcely required any after correction, excepting in that part which treats of the volatile alkali; and though it was written on the spur of the occasion, before the excitement of the mind had subsided, yet it bears proof only of the maturest judgment; the greater part of it is as remarkable for experimental accuracy as for logical precision. This is the more worthy of notice, as when he composed it he was in a feverish state,—the prelude to a severe attack of illness, which was very near proving fatal,—and his great apprehension was, that he should die before he had published his discoveries; in consequence of which dread, he applied himself the more unremittingly to the task of detailing them." 110.

The upshot of all this excitement was a fever, which had well nigh killed him, and kept him in his bed nine weeks. His biographer states some circumstances which prove the interest felt for him. Had he been of the highest rank in society, says Dr. Davy, greater attentions could not have been paid him, more anxious inquiries could not have been made after him. When he was at the worst, his physicians reported his state concisely in writing, for the information of the many who called to ask. His physicians attended him with the greatest assiduity, and in the most friendly and disinterested manner. Two of them, Dr. Babington and Dr. Frank, were previously his friends; Dr. Baillie, who was called in when his illness was most threatening, was not behind them in kindness, disinterestedness, and attention. Dr. Davy mentions, in a note, a fact quite worthy of Dr. Baillie, and consistent with his character.

"The disinterestedness of this eminent physician, a quality for which he was so much distinguished, was marked on this occasion by his returning to my brother (as he himself informed me) a fee of fifty pounds, accompanied by a very friendly note, to the intent that he could not act otherwise towards a man of science." 111.

We need not detail Davy's researches on muriatic acid, or his demonstration of the properties of chlorine, &c. Our business is mainly with his personal history. In 1803, he was elected a Fellow, and in January 1807, one of the Secretaries of the Royal Society,—associated in office with those distinguished men, Dr. Hyde Wollaston and Dr. Thomas Young;—the latter in the capacity of Foreign Secretary—the former of Senior Secretary. He held the appointment, annually re-elected, until 1812,—when he resigned it,—shortly after retiring from the Royal Institution, on his marriage. It was a situation peculiarly agreeable to him; and the attainment of it, he justly valued as a great honour. But Davy had an idea of turning physician, and resuming his interrupted professional studies. A fashionable physician, or a chemical one, we have no doubt that he would have made—a good practical physician, we are pretty certain that he would not. However, he entered his name at Cambridge, and kept some terms there. He was probably induced to form this plan by a prospect of fortune, in a professional career, infinitely greater than he had any right to expect from the mere prosecution of science. From the latter he derived a competency, and little more; from the other, he might calculate on making an independence, and on acquiring means of his own for prosecuting his favourite pursuits. He wisely abandoned the scheme. And, perhaps as wisely, he had previously declined an invitation to enter the church. Some of his powerful friends, especially the Bishop of Durham and Sir Thomas Bernard, were desirous he should do so, with the persuasion that his eloquence might be of efficient service in the cause of religion, and holding out to him the brightest prospects of preferment. He contented himself with giving his aid to the cause in connexion with science.

During the period he continued to lecture in the Theatre of the Royal

Institution, his popularity was constantly increasing, and the size of his audience kept pace with it. Latterly it was scarcely less than 1000. His lectures were so attractive, that had he chosen to have retired from the Institution, like his predecessor Dr. Garnet, and to have opened a course on his own account, he might probably have acquired a large income. In consequence of his reputation and discoveries he was twice invited to deliver courses of lectures to the Dublin Society successively, in 1810 and 1811; and each time he was received not merely in a distinguished, but in an enthusiastic manner. On each occasion resolutions were passed on the part of the Society of a very flattering kind, expressive of thanks and gratification, and the compliment was crowned by Trinity College, Dublin, conferring on him the degree of Doctor of Civil Law.

Among the experiments which Davy prosecuted about this time, there was one of great interest and no slight hazard, which philosophers often conduct to no better result, sometimes indeed to a worse, than other people. This was the experiment of matrimony. The man of enthusiasm may well be supposed to have gone about this with ardour. Mrs. Appreece was the lady whom Davy selected, and he seems to have been such a lover as a lady loves. He writes in this strain:—

> " My dear Mother,—You possibly may have heard reports of my intended marriage. Till within the last few days it was mere report. It is, I trust, now a settled arrangement. I am the happiest of men, in the hope of a union with a woman equally distinguished for virtues, talents, and accomplishments.
>
> * * * * *
>
> " You, I am sure, will sympathise in my happiness. I believe I should never have married, but for this charming woman, whose views and whose tastes coincide with my own, and who is eminently qualified to promote my best efforts and objects in life." 133.

And he breathes his hopes and fears, and transports, into his brother's ear in this fashion:—

> " My dear John,—Many thanks for your last letter. I have been very miserable. The lady whom I love best of any human beings has been very ill. She is now well, and I am happy. Mrs. Appreece has consented to marry me; and when the event takes place I shall not envy kings, princes, or potentates." 134.

The Prince Regent made him a marriage present in the shape of a knighthood, which Davy was not a little proud of. He married accordingly, and seems to have had reason, in every way, pecuniary as well as domestic, to be contented with his bargain. He was appointed Honorary Professor to the Institution, published his Elements of Chemical Philosophy soon after his marriage, and dedicated it to Lady Davy. He published too his "Agricultural Lectures," for the copyright of which he got 1000 guineas, and 50 guineas for each edition, as he himself says, a "fair" price. Amongst a number of quotations from Davy's note-book we select one, which contains, in petto, his opinions on the future prospects of this country. "Sooner or later," he says, "our colonial empire must fall in due time, when it has answered its ends. The wealth of our island must be diminished, but the strength of mind of the people cannot easily pass away; and our literature, our science, our arts, and the dignity of our nature, depend little upon external relations. When we had fewer colonies than Genoa, we had Bacons and Shakspeares. 'The wealth and prosperity of the country are only the *comeliness* of the body, the fulness of the flesh and fat; but the spirit is independent of them: it requires only muscle, bone, and nerve, for the true exercise of its functions. We cannot lose our liberty, because we cannot cease to *think;* and ten millions of people are not easily annihilated.' " Without pinning our faith to Davy as a politician, we think we may very safely coincide in this last opinion. Millions of Englishmen can neither be exterminated, nor mentally gagged.

While making a detonating compound of chlorine and azote, he received a severe wound in the cornea, from which he did not recover for four or five months. In the Autumn of 1813, he obtained permission from the French Government, on account of his scientific eminence, to pay a visit to the Continent, and, on the 15th of October, he crossed the Channel, accompanied by Mr. Faraday, "as his assistant in experiments and writing." He went direct to Paris, where he remained two months, and assisted in determining the nature of iodine. In his last illness, he beguiled the hours of gloom, by sketching reminiscences of some of the great men of science that he met. These are the light touches that always charm, and we shall transfer some to our pages.

" *Vauquelin* was in the decline of life when I first saw him in 1813,—a man who gave me the idea of the French chemists of another age; belonging rather to the pharmaceutical laboratory than to the philosophical one: yet he lived in the Jardin du Roi. Nothing could be more singular than his manners, his life, and his ménage. Two old maiden ladies, the Mademoiselles de Fourcroy, sisters of the professor of that name, kept his house. I remember the first time that I entered it, I was ushered into a sort of bed-chamber, which likewise served as a drawing-room. One of these ladies was in bed, but employed in preparations for the kitchen; and was actually paring truffles. Vauquelin wished some immediately to be dressed for my breakfast, and I had some difficulty to prevent it. Nothing could be more extraordinary than the simplicity of his conversation;—he had not the slightest tact, and, even in the presence of young ladies, talked of subjects which, since the paradisaical times, never have been the objects of common conversation." 166.

" *Cuvier* had even in his address and manner the character of a superior man; —much general power and eloquence in conversation, and a great variety of information on scientific as well as popular subjects. I should say of him, that he is the most distinguished man of *talents* I have known; but I doubt if he is entitled to the appellation of a man of genius.

" *De Humboldt* was one of the most agreeable men I have ever known; social, modest, full of intelligence, with facilities of every kind: almost *too fluent* in conversation. His travels display his spirit of enterprise. His works are monuments of the variety of his knowledge and resources."

" *Gay Lussac* was quick, lively, ingenious, and profound, with great activity of mind, and great facility of manipulation. I should place him at the head of the living chemists of France." 167.

" *La Place,* when a minister of Napoleon, was rather formal and grand in manner, with an air of protection rather than of courtesy. He spoke like a man not merely feeling his own power, but wishing that others should be immediately conscious of it. I have heard, from good authority, that he was exceedingly proud of his orders, and that he had the star of the order of Re-union affixed to his dressing-gown. This was in 1813. In 1820, when I saw him again, his master had fallen. His manners were altered. He was become mild and gentlemanlike; and had a softer tone of voice, and more grace in the forms of salutation. I remember the first day I saw him, which was, I believe, in November, 1813. On my speaking to him of the atomic theory in chemistry, and expressing my belief that the science would ultimately be referred to mathematical laws, similar to those which he had so profoundly and successfully established with respect to the mechanical properties of matter, he treated my idea in a tone bordering on contempt, as if angry that any results in chemistry could, even in their future possibilities, be compared with his own labours. When I dined with him, in 1820, he discussed the same opinion with acumen and candour, and allowed all the merit of John Dalton. It is true our positions had changed. *He* was now amongst the old aristocracy of France, and was no longer the intellectual head of the new aristocracy; and, from a young and humble aspirant to chemical glory, I was about to be called, by the voice of my colleagues, to a chair which had been honoured by the last days of Newton." 168.

From Paris he proceeded to Fontainbleau, where he semi-prophecied the fall of Napoleon, and thence he went by Genoa and Florence to Rome, observing in most places, experimenting in many, and writing poetry in all. At Milan he saw Voltá, whom he draws:—" Voltá I saw at Milan, in 1814, at that time advanced in years, I think nearly 70, and in bad health. His conversation was not brilliant; his views rather limited, but marking great ingenuity. His manners were perfectly simple. He had not the air of a courtier, or even of a man who had seen the world. Indeed, I can say generally of the Italian savans, that, though none of them had much dignity or grace of manner, yet they were all free from affectation."

After his return from the Continent, in 1814, he entered on the investigation of " fire-damp," and by a highly beautiful series of inductions and experiments he arrived at the construction of the safety-lamp. A sufficient answer to the sneer, if any are fools enough now to venture on it, at *feelosofy* and *feelosofers*, and to the question " what good comes of abstract science?" Well might Mr. Playfair quote the sarcasm of Bacon:—" Jam per tot annorum spatia, vix unum experimentum adduci potest quod ad hominum statum levandum et juvandum spectat, et philosophiæ speculationibus ac dogmatibus, neve acceptum referri possit;" and add:—" This is exactly such a case as we should choose to place before Bacon, were he to revisit the earth, in order to give him, in a small compass, an idea of the advancement which philosophy has made, since the time when he had pointed out to her the route which she ought to pursue."

Nobody who knows any thing of governments would expect that they would substantially reward the mere saviour of lives. That would be robbing the political pimps and whippers in, for whom the " nation" reserves its pensions. A baronetcy, indeed, being cheap, and depriving no voter or any dealer in votes of his due, might be conferred, and was so. The public is *left* on these occasions to pay its benefactor, the same public being *made* to pay the factions that rough-ride it. The coal-owners, therefore, were allowed to be as generous as they chose to Sir Humphry. He received letters of thanks from various individuals, and from the united colliers of Whitehaven; a vote of thanks from the coal trade of the North of England,—from the grand jury of Durham,—and from the chamber of commerce at Mons. And besides thanks, as a permanent mark of their obligations, he was presented with a service of plate of the value of £2,500, at a public dinner given to him at Newcastle on the 11th October, 1817, at which Mr.

Lambton, now Earl of Durham, presided. He received also a splendid silver-gilt vase from the late Emperor Alexander of Russia, accompanied by a letter from the Emperor himself, expressive of his sentiments in relation to his important discovery. We cannot refrain from quoting a conversation, reported by Mr. Buddle, who urged Sir Humphry, to take out a patent for his invention. And we are inclined to agree with Dr. Davy, that, had such a patent been the means of insuring an uniform and correct construction of the lamp, it would have been a most benevolent monopoly. The accidents that have occurred have principally resulted from the parsimonious temerity of coal-owners, employing improper instruments made by ill-informed men. But the refusal of Sir Humphry to take out a patent was a noble one.

> "I felt," says Mr. Buddle, "that he did not contemplate any pecuniary reward; and in a private conversation, I remonstrated with him on the subject. I said, 'You might as well have secured this invention by a patent, and received your five or ten thousand a-year from it.' The reply of this great and noble-minded man was—'No! my good friend, I never thought of such a thing: my sole object was to serve the cause of humanity; and if I have succeeded, I am amply rewarded in the gratifying reflection of having done so.' I expostulated (Mr. Buddle continues), saying his idea was much too philosophic and refined for the occasion. He replied, 'I have enough for all my views and purposes: more wealth might be troublesome, and distract my attention from those pursuits in which I delight. More wealth,' he added, 'could not increase either my fame or my happiness. It might undoubtedly enable me to put four horses to my carriage; but what would it avail me to have it said that Sir Humphry drives his carriage and four?" 211.

On the 26th of May, 1818, he quitted England on a second continental journey, undertaken chiefly on account of two objects—the extending the use of the safety-lamp, and the hope of benefiting literature by attempting by chemical means the unrollment of the Herculaneum MSS. In the latter he met with but indifferent success, and he occupied himself, *en passant*, with a theory of volcanoes and some researches into their products. On his return next Spring, to London, he was caught by learning that Œrsted had ascertained that the voltaic pile is a powerful magnet. On this hint, he spoke and worked, and his acuteness and vivid apprehension seized almost instantaneously on many of the laws of electro-magnetism.

Another epoch in his life was at hand. On the 19th of June, 1820, Sir Joseph Banks, who had been for 42 years President of the Royal Society, died. Davy immediately came forward as a candidate for the vacant office. Setting aside the excusable, nay laudable motive of ambition to occupy the place which had been filled by Newton, he conceived that his powers of usefulness would be increased, that he should be able to give an impulse to science, and forward its advancement by example and exhortation; and he flattered himself that he might be able to prevail with the members of his Majesty's government to afford to science some substantial support worthy of the cause and worthy of the country, which to the resources of science had hitherto owed so much and contributed so little. Opposition, though attempted, was fruitless; on the 30th of November, Davy was almost unanimously elected; and, for seven years afterwards, he was annually re-elected.

> "I was with him the whole of the day of his first election, and can record with pleasure how tranquilly he passed it: in the morning he had no appre-

hension of failing of success, and in the afternoon he showed no undue exultation in having obtained it. Before going to the public dinner of the society, held on the anniversary of the election of its officers, he prepared an address, and the speeches it would be required of him to make, as was always his custom when he had to speak in public; for he held that preparation was necessary to speak well. The dinner was very fully attended; and the manner in which his speeches were received, for so grave a body, was quite enthusiastic." 265.

Much scandal has been current with reference to Sir Humphry Davy's bearing in the chair of the Royal Society, or rather as its President out of the chair. It has been said, perhaps by his enemies (and who has not *them?*) that he played the man of fashion, and attuned his tongue to courtly airs, rather than to the sober and democratic accents of science. The following account of his soirées does not seem to give countenance to the injurious imputation.

"The meetings of the Society this year were unusually well attended. Some of the Fellows who had withdrawn during the time of Sir Joseph Banks, owing to the angry contentions which took place in the early period of his presiding, now resumed their attendance; and general harmony and apparent satisfaction prevailed amongst a body of men, so numerous, and of such different tastes and pursuits in literature and science, that it is too much to expect they will consider their interests the same, or even the interests of science, and be for any length of time contented with any President. As it had been the custom of former Presidents to observe a certain state in all that related to their office, conceiving, no doubt, that it helped to maintain its dignity and respectability, my brother did not depart from their example, and he continued to take the chair in a full court dress; to have the splendid mace of office placed on the table before him,* and to sit covered.

His predecessor had for many years an evening party at his own house, for the purpose of assembling men of science, and affording them an opportunity of meeting each other at a fixed time and place. My brother continued this practice, changing only the evening of the meeting from Sunday to Saturday; the former appearing objectionable to some individuals, and he preferring one to which no objection could be made, especially of the serious kind, of interfering with a day which should be set aside for devotional purposes. These evening parties were very similar to those of Sir Joseph Banks; and as long as I was in England, they were numerously attended, and were very agreeable, amusing, and useful. They brought together, not merely men of science, but also literary men, poets, artists, country gentlemen, and they were very attractive to foreigners. The subjects of interest of the day were there discussed, and curious information obtained from the best sources, and knowledge exchanged between individuals, as in a great mart of traffic, each giving and receiving according to his acquirements and wants. There the physiologist and naturalist might collect curious particulars from an African traveller, or Arctic navigator, respecting many objects of his particular inquiries, and give hints for further investigation, or solve questions which might have perplexed the original observers. An evening seldom occurred without some novelty in art, science, or nature, being brought forward—as the bones from the Kirkdale Cave, or a new chemical compound, or a magnetical experiment, or a recently discovered mineral, or some new instrument or apparatus; and a great zest was given by the presence, as was generally the case, of the inventor or discoverer, who was always willing to offer explanation, and give detailed information to those who were desirous of receiving it. And, moreover, a stimulus was thus imparted—a fresh excitement to the mind to continue and perfect useful investigations; and aids were often given which greatly contributed to the successful termination of scientific labours.

---

* "It belonged to the Republican House of Commons,—'the bauble' removed by order of Cromwell."

In these parties, the distinctions of society seemed very much to be lost in the distinctions which science and merit confer. Men of the highest rank in the country mingled with men without any claim to notice, excepting that high one of superior knowledge; and it was a noble thing to see how much more attractive it was, and more honoured, than the highest nobility destitute of this qualification. I remember one evening, when the company was reduced to a small number by the lateness of the hour, and those who remained had collected round the fire, one of the party, I believe it was Dr. Young, observed in playful remark, 'Ah! I perceive all here are doctors:' and so it proved; there being two or three doctors of physic—one, I believe, of divinity, and three of civil law; and of these last two were baronets, and one was an earl, who, though distinguished for his high bearing on ordinary occasions, on this occasion seemed pleased to be considered of the same grade as the rest." 269.

At this time, Sir Humphry resided in Lower Grosvenor Street, No 28; and as long as he remained in that house he continued to give these weekly evening parties during the session of the Society. Afterwards, when he removed to 26, Park Street, Grosvenor Square, in 1825, they were discontinued; and, as a substitute, the library of the Royal Society in its apartments, at Somerset House, was opened on Thursday evenings, after the regular meeting was concluded, where the fellows and visitors could converse familiarly on matters of science. Dr. Davy is not precisely acquainted with his brother's reasons for this step. He remarks that when Sir Humphry first became President, he attached some importance to these social meetings, and it was his wish to have made them as agreeable as possible, and as attractive; and to have opened the drawing-room to them, so that ladies might not be excluded; but this he could not effect; and perhaps it might have failed had it been attempted. The parties would, probably, have gained less in gracefulness, ease, and vivacity, than they would have lost in usefulness, zeal, and interest in matters of science. It is to be feared that they would have become fashionable assemblies, rather than scientific meetings. So long as his health permitted, he continued to give the dinners which were expected from him as President, to which were invited, principally, the working Fellows of the Society. The plate which was used on these occasions was very appropriate, consisting chiefly of honorary plate, and principally of the handsome service which was presented to him in 1817, by the great proprietors of collieries in the North of England.

Sir Humphry commenced his presidential duties with high hopes and his wonted enthusiasm. Whether he was, himself, in any degree answerable for his disappointments, we shall not pretend to guess. There is always a sufficiently strong under-current of jealous falsehood and malignity, to baulk the *happiness* of any public man, and perhaps he escapes with least annoyance and least hurt, who possesses most phlegmatic coldness, and aims rather at correctness than at excellence. Enthusiastic temperaments, if qualified for eminence, pay the heaviest tax upon it, and the very ardour that carries them past common men in the right direction, is apt to lead them too far in the wrong. Davy was evidently no man of the world, and possibly his consciousness of his great abilities and his remarkable good fortune, may have led him to expect more from society than it will give. The man who had met with no considerable disappointments, was probably ruffled by slight ones, and at last he took refuge from a world which ill-contented him in one of imagination and of dreams. This conviction cannot fail to press itself on the reader of "The Last Days of a Philosopher." Dr. Davy admits, that his brother did not find the Presidency what he had anticipated, and accounts for it in a not unsatisfactory way :—

"Whilst he was in office, the reputation of the Society was certainly not diminished, but was rather exalted ; the desire to belong to it was increased; its Transactions were scarcely at any former time more original or interesting; and at no former period was there more harmony in the general body of the Fellows. And yet, I believe, my brother's expectations were not answered, and he effected very much less than he wished. Government was lukewarm or indifferent in matters of science, and gave him no effectual support; when requiring the aids of science, and of the fellows of the Royal Society, applying to him without hesitation, and, when their objects were attained, forgetting the services. It was his wish to have seen the Royal Society an efficient establishment for all the great practical purposes of science, similar to the college contemplated by Lord Bacon, and sketched in his New Atlantis : having subordinate to it the Royal Observatory at Greenwich, for astronomy; the British Museum, for natural history, in its most extensive acceptation ; and a laboratory founded for chemical investigation, amply provided with all means requisite for original inquiry, and extending the boundaries and the resources of this most important national science. I remember well his speaking to me more than once on the subject. He had even the idea of raising the funds necessary for forming a laboratory by subscription amongst the Fellows themselves, without the aid of government; and he probably would have attempted this and some other plans for the advancement of science, had his health remained firm.

As regarded satisfaction and pleasure to himself in his official situation, I fear he was much disappointed, and particularly latterly, when he was least able to bear annoyances. He had no idea of manœuvering or managing, and never shrank from responsibility. On him fell the odium of all measures which hurt the feelings of individuals, whether in consequence of the rejection of a paper which the author supposed was worthy of a place in the Philosophical Transactions, or the black-balling of a candidate, ambitious of becoming a Fellow, and, of course, considering himself deserving of that distinction. As no wound, perhaps, rankles more, and is more vexatious than that of personal vanity, so no class of people are more harassing and annoying than those thus offended; and it is from these that a President of the Royal Society is most exposed to attacks,—persons commonly without any dignity of character, and generally without real ability, feeble, and consequently irritable. The man of real ability, or of true dignity, is above the Royal Society, and need not condescend to resent any act of injustice towards him, supposing the decision of the President and Council to be unjust. He has the world for his tribunal ; and it is only necessary for him to publish the results of his inquiries, and he is sure to have justice done to him. Another source of annoyance, belonging to the office of President is that of the perpetual interruption of his leisure from applications by letter and personally, without end, respecting trifling inventions, supposed by their authors to be important discoveries, respecting patents and certificates for patents, and about imaginary discoveries and schemes worthy of Bedlam, and generally proposed by men of unsound, and often insane mind. To be thus deprived of time, and to have attention and patience wearied, must have been disagreeable to any man, excepting of a trifling character, and to my brother it was particularly wearying, and it even interfered with his own pursuits, and deprived him very much of the leisure which he might have devoted to original research. As an honorary situation, without profit or emolument of any kind, but occasioning considerable expense to the individual, a stranger to the nature of its duties would suppose the office of President of the Royal Society, for a man of science not only the most elevated, but the most agreeable possible. It undoubtedly should be so; but it never can be so, as long as pretension to knowledge, vanity, and presumption, are more common (and they will always be more intrusive) than real knowledge, modesty, and diffidence. The pleasures of office, and especially of honorary office, are generally in anticipation and imaginary—the trials and troubles, real and incessant." 273.

Nothing is more true than this. But one man's experience is seldom of use to another, not very often, indeed, to himself. Declamations against ambition, and moralisings on the vanity of human wishes, have probably never prevented one ambitious struggle, nor checked one wish.

But although his experiments did not prove successful in reference to the point to which they were ostensibly directed, the establishment of the principle of metallic protection was calculated to prove of extreme utility. Davy himself remarked with perfect truth, in his last Bakerian lecture, *that*, whenever a principle or discovery involves or unfolds a law of nature, its applications are almost inexhaustible; and, however abstracted it may appear, it is sooner or later employed for the common purposes of the arts and the common uses of life.

In the Summer of 1824, he made a voyage to the North Sea, and we have an interesting diary of his excursion. He was not much of a sailor. He makes the following memorandum of Berzelius.

"*Berzelius* was the worthy countryman of Scheele, and certainly one of the great ornaments of the age. Indefatigable in labour, accurate in manipulation, no one has worked with more profit. His manner was not distinguished, his appearance rather coarse, and his conversation was limited much to his own subjects." 319.

But a cloud, the heaviest and blackest that had yet impended over Davy, was now lowering on him, and the brilliancy of his career was to be for ever dimmed. In the Autumn of 1825, not only did he experience some bodily indisposition, but his spirits flagged and their elasticity, for the first time, was seen to give way. He passed an ailing Winter, only to enter on a more ailing Spring. His mother died in September, 1826, and, soon after this, the deterioration in his own health was marked. The following account, furnished by his brother, will be read with interest.

"He experienced more frequently troublesome symptoms, such as uneasy feeling and slight numbness of the right hand, and sometimes pain of the fore-arm, shooting up to the chest; with occasional inordinate action of the heart, and occasional pain and weakness of the right leg. By one of his medical advisers, the pain and numbness of the hand and arm, which on the whole were the predominant ailments, were attributed to an old sprain of the wrist; by another his indisposition was referred to increased flow of blood to the head; and by a friend, a physiologist, to weakness of the heart. He was rather disposed to follow the advice which was most agreeable to the convivial epicurean habits of London Society, and adopt a strengthening diet, as it is called, of animal food, than an abstemious regimen. For some time he ate meat three or four times a day; but he did not improve. When he delivered that discourse which was his last to the Royal Society, at the anniversary meeting on St. Andrew's day, 1826, it was done with such effort that drops of sweat flowed down his countenance; and those who were near him were apprehensive of his having an apoplectic seizure; and he was afterwards so much indisposed as to be unable to attend the dinner of the Society. That day he had the honour of being elected President the seventh time.

When I returned to England in December of the same year, I went to see him at the house of his friend, Mr. Watt Russel, in Northamptonshire, where he was on a visit. He looked well, but stouter than when I left him on my going abroad four years before. He complained of his hand and foot, and of general indisposition, yet he took exercise, and went out with his gun; and he was still on a diet chiefly of animal food, and on a large allowance, his appetite not being bad. We travelled together to London, and in a few days parted to go into different parts of the country.

About a fortnight after, when I was at Hilstone House in Monmouthshire, I had a note from him, dated London, begging me to come to him as soon as I conveniently could, for he was ill. In less than two days I was with him, and I found him much worse than I expected, and labouring under a paralytic attack, affecting the right side. It had come on suddenly while shooting at Lord Gage's. On his arrival in town, to which he hastened, he had put himself under the care of his old and kind friend Dr. Babington,* and of Dr. Holland. The medical treatment employed appeared to have had little or no beneficial effect. As he gained strength, however, the symptoms gradually diminished, and we were very sanguine that he would recover completely." 326.

We observed that the account would be read with interest. We feel for Davy, and we also feel for the mistake that was so obvious, and, perhaps, was so disastrous. Had another view, more correct, and we might add, more rational, been taken, Davy might have been still spared to us, and reserved for fresh discoveries. But, unfortunately, the same blunder that was made in his case, is daily made in others, and while organic lesions are stealing on the brain, the phantom of debility is still invoked, and the willing patient is coaxed and crammed with what he most likes and what is most pernicious.

Davy, though halt in body was active in mind, and pursued some light literary labours. But a journey to the Continent, undertaken in January, 1827, was more likely to conduce to his recovery. He went to Ravenna where he remained for the Spring. His time there, was chiefly spent in taking exercise, in reading, and conversation. About eleven o'clock he commonly got on horseback, and with his gun and dogs, either wandered through the beautiful and extensive avenues of the Pineta, then exhibiting the first burst of Spring, or followed the embankments of the marshes of La Classe, in quest of his favourite petzardone; or, if disinclined for horse exercise, walked on the ramparts of the city. Reading, conversation, and écarté filled up the evening. The reading he then preferred was Lord Byron's poems, of which we had procured a convenient travelling copy, in one volume, at Calais. The place gave additional interest to these poems: he had there met their noble author and the lady of his love, under whose influence the muse of Byron had made some of her best efforts; and at that time this amiable and talented woman was at Ravenna residing with her family, and occasionally honoured the invalid with a visit. In April, he shunned the heat of Italy, and sought his old haunts in the Eastern Alps. "Many parts of his journals," says Dr. Davy, "are to me very affecting, as, when recording his wretched health and often miserable sensations, during the struggle he was unremittingly making by all possible means to get rid of his ailments, 'Valde miserabilis!' is not an unfrequent expression; and commonly accompanied with mention of diminished power of limbs and general feebleness, with pains and numbness of limbs. Sometimes he is in despair of recovery, and resigned to his fate; at other times indulging in hope, thankful for feeling better, and expressing thanks (and he does it very often) by the use of letters, such as G. G. D., O. O. O., or G. O. O. D." It would appear that Sir Humphry was, at this time, alone. Dependent, observes his brother, entirely on his own resources; no friend to converse with; no one with him to rely on for aid, and in a foreign country, without even a medical adviser; destitute of all the amusements of society; without any of the comforts of home—month after month, he kept on his course, wandering from river to river, from one mountain lake and valley to another, in search of favourable climate; amusing himself with his gun and rod, when sufficiently strong to use them, with 'speranza' for his rallying word. Now, considering that he had lately been threatened with apoplexy, and was actually labouring under paralysis, we cannot look on it as a judicious plan to have allowed him to wander by himself among the Alps. The "strength of mind" which accomplished this was not accompanied with prudence. His own letter to Mr. Gilbert, in which he resigned the Presidency of the Royal Society, will be an ample commentary on his state and our remark: "I am sorry to say that the expectations of my physicians of a complete and rapid recovery have not been realized. I have gained strength under the most favourable circumstances, very slowly; and though I have had no new attack, and have regained to a certain extent the use of my limbs, yet the tendency of the system to accumulate blood in the head still continues, and I am obliged to counteract it by a most rigid vegetable diet, and by frequent bleedings with leeches and blisterings, which of course keep me very low. From my youth up to last year, I had suffered more or less from a slight hemorrhoidal affection; and the fulness of the vessels, there only a slight inconvenience, becomes a serious and dangerous evil in the head, to which it seems to have been transferred." How can we wonder at Davy's affection. Constant excitement, for, with him, both work and amusement were excitement, produced determination to the head, the earlier symptoms were disregarded, their successors were mismanaged, and then the evil was irreparable.

---

* "Babington, the best and warmest-hearted friend, the kindest husband and father, and perhaps the most disinterested physician of his time; with good talents, and a fine tact, and a benevolence which created sympathy for him wherever he appeared, and I believe often cured his patients."—*MSS. Sketches of Contemporary Characters.*

Almost the last memorandum made on this occasion, or, rather, the last quoted by his biographer, expresses Davy's sentiments on self-destruction:—

"As I have so often alluded to the possibility of my dying suddenly, I think it right to mention that I am too intense a believer in the Supreme Intelligence, and have too strong a faith in the optimism of the system of the universe, ever to accelerate my dissolution. The laurel water, therefore, which I have carried about with me, and used constantly, and from which I have decidedly derived benefit, is a prescription of Tomasini's; and the laudanum and opium which are in my dressing-case, but which *I have never used*, were recommended to me in small doses to remove irritation, taken with purgatives. I have been, and am, taking a care of my health which I fear it is not worth; but which, hoping it may please Providence to preserve me for wise purposes, I think it my *duty*.—G. O. O. O." 381.

He returned to England in October, only to leave it for the last time, in March. In England, he fished and shot when he could, (when did he not?) and we are tempted to give his brother's portrait of the angler, in his best days. This was his attire.

> " It was not unoriginal, and considerably picturesque—a white low-crowned hat with a broad brim; its under surface green, as a protection from the sun, garnished, after a few hours' fishing, with various flies of which trial had been made, as was usually the case; a jacket either grey or green, single-breasted, furnished with numerous large and small pockets for holding his angling gear; high boots, water-proof, for wading, or more commonly laced shoes; and breeches and gaiters, with caps to the knees made of old hat, for the purpose of defence in kneeling by the river side, when he wished to approach near without being seen by the fish: such was his attire, with rod in hand, and pannier on back, if not followed by a servant, as he commonly was, carrying the latter, and a landing net. In fishing, as well as in every thing else which he undertook, he displayed extraordinary zeal and energy. It was not unusual for him to go two or three hundred miles for a day's fishing, and his perseverance was in the same proportion. I remember fishing with him from early dawn to twilight in the river Awe in June, for salmon, with little interruption, without raising a fish." 385.

It seems, at first sight, odd, that a mind so ardent as Davy's should take such intense delight in a sport so passive. But, independently of the exercise of *fly* fishing, there is the excitement, the suspense, the hope in angling, which makes it a sort of game of chance, a kind of *water-gambling*. However, an ardent mind must be dashed with the contemplative to enjoy angling thoroughly, and, ardent as he was, Davy loved the beauties of Nature, and was happier far by the river side or on the heather, than with the president's mace of the Royal Society before him, or the fashionable *Blues* of the Royal Institution around him.

He went once more to the Eastern Alps, accompanied by Mr. now Dr. Tobin, and was " disposed to think, with Dr. Philip and Charles Bell, that the radical evil in my case is diseased sensibility in the nerves of the digestive organs, affecting by sympathy the whole sensorial system, and that the determination of blood to the head is only a secondary symptom." His old taste was come on him, for composition of a visionary cast, and besides writing and re-writing his " Salmonia," and his " Consolations in Travel," he planned his Memoirs, and " the Modern Socrates," the design of which is " against all plans of vague ambition; for the simpler pleasures of our nature; and for utility—against war, states-craft, &c., for angling, shooting, the sciences,—against the glory of lawyers, warriors, &c." How changed from the Humphry Davy who took glory by assault with the galvanic battery, and wedded an earthly goddess. In one of his letters, Davy makes rather a whimsical remark, whimsical, at least, for him, for it is one of every-day occurrence. " Poor Dr. Wollaston," he writes, " has an attack of paralysis, and I am sorry to hear is without hopes. His severe and ascetic life has not preserved him. This complaint is certainly becoming more common in England. I have heard of two or three other friends who have likewise suffered,—spare, abstemious men; James Macdonald is one of them."

When a man has anything the matter with *himself*, he fishes out similar cases, and whether it be a cancer or a corn, he soon finds fellow-sufferers, and hugs himself with the consolation that the disease is grown wonderfully common. The philosopher, it will be seen, was no proof against this species of self-flattery. Davy did not know, for he was little of a practical physician, that paralysis, that is, morbid affections of the cerebral vessels and structure, is the natural breaking up of the machine. The old, whether in years or in constitution, may almost lay their account to undergoing it, and even asceticism cannot ward it off. Those who lead a life of mental excitement, those who fill their vascular system to repletion, and those who impair their powers by debauchery, are more prone to suffer than the moderate. But even the moderate cannot escape, and, when death flings his net, the victims past the prime of life may look for "paralysis" as one of its most inevitable meshes.

Davy's end was nigh. Organic disease of the heart and of the head, for who can doubt that he had one or both, was surely, however slowly, doing its work.

On the 20th of February, writes his biographer, most unexpectedly, for there had been no premonitory symptoms, and quite suddenly, he had that severe attack which ultimately proved fatal. That morning (as he told him afterwards) he felt better than usual,—his pulse about 68°; the tongue clean; the ordinary functions of the body well performed. After breakfast he had sat some time, dictating an addition to the sixth Dialogue; when he had finished it he attempted to rise to go into his bed-room, which was adjoining; but found that he could not stand, and that he had lost all power over his limbs, without pain of head, or vertigo, or loss of power of intellect, accompanied merely by a feeling of sickness of stomach. Medical aid was immediately had; leeches were applied to the temples, as if the brain had been affected; and a lowering (or, as it is called, antiphlogistic) plan of treatment was pursued, but with no good effect. He spent the night very restlessly, and the following morning the right side was quite powerless, and the stomach much deranged. He sent for his brother; who got to Rome on the 16th of March. Davy was bad enough, but he was thinking of science. The subjects which now interested him most were, the peculiar electrical power and anatomical structure of the torpedo—his last "Dialogues;" and the second edition of "Salmonia." On these subjects he spoke fully, especially on the first. So Dr. Davy dissected for him, and read to him. More than once there was that final leave-taking, the mournful etiquette of death, and on awaking after a night of such despair, he actually made experiments to satisfy himself that he was alive. This gave his mind a new turn, hope revived, and he "dreamed of bright days to come." When melancholy he had listened to Moore's "Epicurean." Now he preferred Shakspeare's plays; especially his comedies; and the "Arabian Nights," and "Humphrey Clinker." He delighted in hearing these read; and he was not comfortable unless some one was with him almost constantly during the day reading to him. He rallied so much that he drove out, and his passion for the fresh air was as strong as ever. On the 30th of April he could quit Rome on his way to Geneva, where he arrived on the 28th of May, the last *day*, he was to see. His last moments, for time was now to be measured by moments, are painfully interesting. "On our arrival at the inn he merely reclined on a sofa, and occasionally walked to the window, and looked out upon the lake, and expressed a longing wish to throw a fly, as he had been before in the habit of doing, on its waters and on his favourite Rhone. Here he learnt the death of his old friend, Dr. Thomas Young, as I have elsewhere observed.* I was not present when Lady Davy made the communication to him; but when I returned I saw him affected, and he told me how deeply he had been affected by it, even to profusion of tears, and in a manner that was almost unaccountable. In a short time he recovered his composure, and conversed on indifferent matters.

At five o'clock he dined at table, and made a tolerable dinner. After dinner he was read to, according to his custom. At nine o'clock he prepared to go to bed. In undressing, he struck his elbow against the projecting arm of the sofa on which he sat. The effect was very extraordinary; he was suddenly seized with a universal tremor; he experienced an intense pain in the part struck, and a sensation, he said, as if he were dying. He was got into bed as soon as possible. The painful sensations quickly subsided, and in a few minutes were entirely gone. There was no mark or hurt on the elbow, no pain or remaining tenderness; and the effect of the blow perplexed him no less than it did me. A slight feverish feeling followed, which he thought little of, he took an anodyne draught of the acetate of morphine, and then desired to be read to, that his mind might be composed to sleep by agreeable images.

About half-past nine he wished to be left alone, and I took my leave of him for the night, and for ever on earth. His servant, who always slept in his room, called me about half-past two, saying he was taken very ill. I went to him immediately. He was then in a state of insensibility, his respiration extremely slow and convulsive, and the pulse imperceptible. He was dying; and in a few minutes he expired."

No post-mortem examination of his body was made, at his own request: and for how singular a reason! He had a dread of a *post-mortem* examination, founded on an idea which occurred to his mind, that it was possible for sensation to remain in the animal fibre after the loss of irritability and the power of giving proof to others of its existence.

Before we part from Davy altogether, we must not forget to communicate some of those personal traits, and characteristics of sentiment or feeling, which connect the hero with common humanity, and are, we believe, almost equally interesting to the reader of cultivated or uncultivated mind.

---

* "My brother, in his sketches of the characters of his distinguished contemporaries, thus notices Dr. Young:—

"I must not pass by Dr. Young, called Phenomenon Young at Cambridge; a man of universal erudition, and almost universal accomplishments. Had he limited himself to any one department of knowledge, he must have been first in that department. But as a mathematician, a scholar, a hieroglyphist, he was eminent; and he knew so much that it is difficult to say what he did not know. He was a most amiable and good-tempered man; too fond, perhaps, of the society of persons of rank for a true philosopher."

" He was of middle stature, about five feet seven inches high; but appeared shorter, perhaps from the just proportions and symmetry of his make. His hands and feet were small, and his bones in general small; but his muscles were comparatively large, especially of the lower extremities, in consequence of which he was well adapted for those exercises and sports of the field and river in which he delighted. He could walk well, and bear fatigue for a long time; his arms and shoulders were, he used to say, less able than his legs; yet their strength was perfectly adequate to the management of the salmon rod, and the laborious amusement of salmon fishing; and there were few anglers who could throw the fly further on the water, or with greater steadiness and delicate precision; and he was quick in the use of his gun, and amongst good shots a very tolerable one, especially in that kind of shooting which requires an active hand and eye, as snipe shooting. His chest was well formed and rather ample, and his breathing perfectly good, and he was a good swimmer; yet in early life, as noticed by himself in his 'Researches,' his respiration was unusually rapid, twenty-six in the minute, which is about six above the average; people in health generally making twenty respirations in the minute. As he grew older this quickness of breathing diminished; and latterly I believe it was rather slower than is usual.

His neck was rather long and slender: his head was rather small, its surface smooth and rounded, without any striking protuberances; the occipital part was small, the forehead ample and elevated, and very beautifully rising, wide and gently arched. His face was oval, and rather small; but, owing to the expansion of forehead, not apparently so. His features were not perfectly regular; the nose aqualine, and broad at its base; the mouth rather large, the under lip prominent and full; the teeth not large, but irregular; his eyes were light hazle, and well formed; his hair and eyebrows were also light brown; the latter were scanty, the former abundant, and very fine and glossy, with a tendency to curl. I remember once a gentleman speaking to me about it, and expressing his admiration of its quality, very much in the manner he might use in speaking of a lady's hair. His skin was delicate, and his complexion fair, with a good deal of colour. His countenance was very expressive, and responsive to the feelings of his mind; and when these were agreeable, it was eminently pleasing, I might say beautiful, for his smile was so; and his eyes were wonderfully bright, and seemed almost to emit a soft light when animated. His voice was full-toned and melodious, with something in it which impressed his hearers, and made it remembered; indeed, I have heard a lady, who resided in a distant part of the country, and who never saw him, remark, that she hardly ever remembered his name being mentioned without some notice of his voice being made. It was particularly well adapted to express feeling, that kind which was predominant in him,—the high and poetical,—and equally well adapted to convey tenderness and kindness. Without a musical ear, or a quick perception of the difference of sounds, he had studied its intonation carefully, and had so acquired a manner which a person with a fastidious taste for music might find fault with, and yet was very agreeable to a mixed audience. I recollect at the first anniversary dinner of the Royal Society, at which he appeared in his capacity of President, after the cloth was removed, and he had addressed the company in a speech which was extremely well received, the gentleman who sat next me (and who was not aware that I was his brother), turned to me and said, he was sure the President was not musical; that his voice was very fine, but it was deficient in just musical modulation. The person who made this remark was, I believe, an amateur musician, and a distinguished critic in the science of sounds. His senses generally were acute, and well fitted for active life, and the successful pursuit of physical science, in which they are the messengers of information, and unless quick and accurate, may retard and lead astray even the most correct and penetrating minds." 444.

He had a moderate relish for art, an ardent love of Nature. Of sanguine temperament, difficulties stimulated, rather than daunted him, and lasting depression he struggled against, both constitutionally and on principle. As an instance of this his brother cites his conduct in illness. He always strove and attempted to make head against it, trying various remedies, consulting successively different physicians, using different kinds of diet, shifting his abode from the north to the south, according to the seasons and his sensations. Persons who did not comprehend his mind and temperament might misinterpret many of his actions, and especially while he was in a valetudinary state, and attribute almost to derangement of intellect what was the result of activity of mind and unyielding disposition; as his exercising himself not only in walking, but occasionally in running, when he was struggling with a paralytic affection of his right leg, on the idea that the muscles might probably recover their tone by exercise; and in his continuing to shoot and fish at a time when most men would have been confined to their rooms; and in prosecuting his scientific pursuits and literary labours even during dangerous illness, and when he supposed he had only a few hours to live.

He was warm in his friendships, disinterested in his conduct, liberal without profuseness in his expenditure, and moderate in his opinions. Mr. Warburton, it seems, called him, in the House of Commons "a great Tory." This imputation is repelled by his biographer, who cites his advocacy of Catholic Emancipation, his sentiments on the dependence of governments upon the people, and his belief that England holds her pre-eminence among the nations, mainly because her free institutions promote the liberties of man. He would appear then, not to have been "a great Tory," nor a friend to "radicalism, or low democracy." In fact, his leanings were probably rather towards aristocracy, than mere Toryism, terms which, it is well known are not altogether synonymous, Whigs being often most aristocratic.

He was of a social, it would not be going much too far to style it a convivial, disposition, preferring good society, when he could get it, and, when he could not, taking up with worse. His brother tells us of two young officers who accidentally fell in with him on the river side when angling, and spent the evening with him at an adjoining inn, where they stopped for the night. They found their chance companion so singularly amusing, and such "a very good fellow;" so copious in good stories; so knowing in the art of angling and in all things relating to rivers and fish, and to the gun as well as to the rod,—that their curiosity was excited to inquire of the landlord who he was; and their surprise was great on being informed that he was the President of the Royal Society. That he was ambitious of distinction in conversation is pretty evident, from his ardour when well, his seclusion when ill. We have heard it said, that he was too diffuse and too flowery, both in speaking and in lecturing, and his brother virtually confesses it. The man who was fond of good society would be likely to be fond also of good dinners and good wines; and Davy was so. Yet he was no free liver.

"In dress he was rather careless, especially latterly; consulting more health and comfort than fashion and appearance. Before the present undress of gentlemen came into vogue, after the termination of the war, short breeches, black silk stockings, a blue coat, and a white waistcoat, and white neckcloth,—the common costume of the time,—was his usual attire; but he retained it no longer than it was common. He was fond of broad-brimmed hats, as they afford protection from the sun and rain, and he generally wore one in travelling. I remember his wearing one of very moderate dimensions when he came to Edinburgh in 1811, soon after his marriage, at the time I was studying there; and in walking through Princes-street it attracted the impertinent notice and remark of some young men who were following us. At that time there was so little intercourse with foreigners, and dress was so uniform, that any small innovation was considered a great peculiarity. 459.

From an animated sketch of him by Mr. Poole, we are tempted to extract one anecdote, which exhibits Davy's freedom from sordid national jealousies.

" Men of science, wherever situated, he considered as fellow-subjects of one great republic, spread over the world. I was in London soon after he received the letter from France, announcing that the National Institute had awarded him the prize given by Napoleon to the greatest discovery by the means of galvanism. (These discoveries are detailed in the Transactions of the Royal Society, 1807.) He showed me the letter, and said, 'Some people say I ought not to accept this, and there have been foolish paragraphs in the papers to that effect; but if the two countries or governments are at war, the men of science are not,—that would indeed be a *civil war* of the worst sort.'—'Rather,' he added, 'we should, through the instrumentality of men of science, soften the asperity of national war.'" 466.

Dr. Davy introduces the characters of his brother, drawn by Dr. Henry, and by Professor Silliman. They are highly laudatory, yet, probably, little more laudatory than just. One passage from Silliman is worth quoting:— " To conclude, we look upon Sir Humphry Davy as having afforded a striking example of what the Romans called *a man of good fortune*;—whose success, even in their view, was not however the result of accident, but of ingenuity and wisdom to devise plans, and of skill and industry to bring them to a successful issue. He was fortunate in his theories, fortunate in his discoveries, and fortunate in living in an age sufficiently enlightened to appreciate his merits;—unlike, in this last particular, to Newton, who (says Voltaire), although he lived forty years after the publication of the *Principia*, had not, at the time of his death, twenty readers out of Britain. Some might even entertain the apprehension that so extensive a popularity among his contemporaries, is the presage of a short-lived fame; but his reputation is too intimately associated with the eternal laws of Nature to suffer decay; and the name of Davy, like those of Archimedes, Galileo and Newton, which grow greener by time, will descend to the latest posterity."

Dr. Davy terminates his task by a defence of contemporary biography. Mr. Babbage had observed, in reference to Wollaston and to Davy, " until the warm feelings of surviving kindred and admiring friends shall be cold as the grave, from which remembrance vainly recalls their cherished forms invested with all the life and energy of recent existence, the volumes of their biography must be sealed; their contemporaries can expect only to read their *éloge*." Dr. Davy rather contends for the propriety of this, and holds that the maxim, de mortuis nil nisi bonum, is not only a generous but just one, intended and calculated to protect the dead from slander. " To hold up," he says, " the infirmities of a man of genius to observation is neither necessary nor useful: on the contrary, injurious, as tending to lower him as an example in the minds of posterity, and diminish the influence of his name. Almost from the nature of biography, it appears to me that it *ought* to be laudatory." This is a gallant view of biography, and worthy of the brother of Davy. But we are not sure, that, to sacrifice truth to the ideal, is productive of so much utility as an ardent mind might anticipate. Exaggeration is suspected, the picture is deemed flattering and false, and scepticism or envy subtracts more than truth would have deducted.

But, after all, the life of Humphry Davy should be read by young and old, to stimulate the one, to console the other. It is the life of a man of high aspirings, a generous spirit, a noble enthusiasm, and a fine genius. His fortune was of his own earning, and never was it gained with more to praise and less to blame in the winner.

He loved science more for its own sake, than for that of the power or the dignity it brought; and money, the base divinity to which so many bow the knee, was little worshipped by him. These qualities of mind are admirable, and worthy of all imitation, and cannot be held up too earnestly or too long before the eyes of youth. Nor are the last days of the philosopher without their portion of sad instruction. Rich in wealth and honour and in the opinions of men, possessed of what ambition craves and sacrifices all to get, surrounded with what the poor believe and the great would have us think the appurtenance and means of happiness, Davy found that these ministers of pleasure spoke with lying tongues, and fell back on what is purchaseable at no costly price, a love of nature, a desire for philosophic truth, and utility to mankind for an aim and object. His example then encourages in every way—to the ardent it points out the road to fortune—to those on whom fortune *will* not smile, it gently whispers her insignificance. Whatever might have been the faults of the man, they were as nothing compared with his virtues, and his constant aspiration to do good to humanity, the stimulus of his labours, the consolation of his sickness, have woven an undying wreath to his memory.

II. PHILIP SYNG PHYSICK was born in Philadelphia, on the 7th of July, 1768. His father, Mr. Edmund Physick, was an Englishman. Previously to the separation of the United States from Great Britain, he held the office of Keeper of the Great Seal of the Colony of Pennsylvania; and subsequently to the Revolution he took charge of the estates belonging to the Penn family, and served as their confidential agent. Physick's school-boy days present nothing remarkable. In June, 1785, one month after he obtained the degree of Bachelor of Arts, he commenced the study of medicine, under the superintendence of the late Doctor Adam Kuhn, well known as the pupil of Linnæus, and a most distinguished and successful practitioner, and then Professor of the Theory and Practice of Medicine in the University of Pennsylvania. He remained at the University for three years, when, to complete his education, he determined to visit Great Britain, and avail himself of the advantages which were afforded by the great schools and hospitals of London and Edinburgh. He arrived in London in January, 1789, and became a private pupil of John Hunter's. Dr. Physick continued to prosecute his studies with the most exemplary perseverance and industry, under the immediate superintendence of Mr. Hunter, throughout the year 1789. On the first of January, 1790, he was appointed House Surgeon to St. George's Hospital for one year, which is the usual period of that service in the institution. This appointment he owed exclusively to the patronage and influence of Mr. Hunter.

Dr. Physick was fortunate in obtaining such an appointment so early; no amount of interest would now, after only a year's attendance, procure it. Dr. Randolph believes, and no doubt with justice, that it was during the period of his remaining in St. George's Hospital, that Dr. Physick acquired a vast deal of that surgical skill and dexterity which laid the foundation of his subsequent greatness.

> " An anecdote frequently related to me by Dr. Physick, connected with his early appointment to St. George's Hospital, I trust I may be pardoned for mentioning here, notwithstanding it has already been promulgated from another source. His success in obtaining this situation caused some slight degree of dissatisfaction on the part of some of the disappointed applicants, who conceived that their claims for the situation were stronger than his. In consequence of this Dr. Physick clearly perceived that they evinced an uncommon share of curiosity respecting the manner in which he discharged his duties, and that they were disposed to scrutinise his actions with the greatest strictness. A short period after commencing his services, a patient was admitted into the hospital who had had the misfortune to dislocate his shoulder; the head of the humerus was thrown downward, and lodged in the axilla. Fortunately the accident was quite recent. It so happened that at the time the man was admitted the whole class were in attendance at the house. They, of course, were exceedingly anxious to witness the manner in which the reduction would be effected, and Dr. Physick was perfectly well aware that his method of restoring the bone to its natural situation would be subjected to severe criticism. He directed the patient to be seated upon a high chair; he then proceeded to examine the injured shoulder very particularly, and questioned the man as to the manner in which the accident had occurred. Whilst making these inquiries he placed his left hand in the axilla, and taking hold of the lower end of the humerus with his right hand, he made all the extension in his power; he then suddenly depressed the elbow of the patient to the side of his body, and in so doing, dislodged the head of the bone, which glided instantaneously into the glenoid cavity, very much to his own delight, and doubtless also to the perfect satisfaction of the class." 25.

In January, 1791, after giving up his house-surgeoncy, he received the diploma from the London College of Surgeons, and Mr. Hunter's sense of his merits was evinced in a very decisive manner. He invited him to take up his residence with him, to become an inmate of his house, and to assist him in his professional business; he also held out inducements to him to establish himself permanently in London, and to pursue the practice of his profession in that city. But Physick declined the offer, and merely remained with Hunter till May, when he proceeded to Edinburgh, where, in May, 1792, he obtained the degree of M.D.

He returned to his native country in September, 1792; and commenced the practice of his profession in Philadelphia. His manners and appearance were eminently in his favour. Dr. Randolph tells us that " he was of a medium height; his countenance was noble and expressive; he had a large Roman nose; his mouth was beautifully formed, the lips somewhat thin, and he had a high forehead, and a fine hazel eye, which was keen and penetrating. The expression of his countenance was grave and dignified, yet often inclined to melancholy, more especially when he was engaged in deep thought, or in performing an important and critical operation. Dr. Physick rarely indulged in excessive mirth ; he was, however, far from being insensible to playful humour, and on such occasions his countenance would be lighted up by a benign smile, which altered entirely the whole expression of his features. His manners and address were exceedingly dignified, yet polished and affable in the extreme; and when he was engaged in attendance upon a critical case, or in a surgical operation, there was a degree of tenderness, and at the same time a confidence, in his manner, which could not fail to soothe the feelings and allay the fears of the most timid and sensitive.

Dr. Physick, as might be well supposed, was not oppressed with practice for the first year. But, fortunately for him, the yellow fever afflicted Philadelphia in 1793, and Physick was elected Physician to the Yellow Fever Hospital at Bush Hill. The populace, as is usual during pestilences, being disposed to be riotous, Dr. Physick was created an alderman, for the purpose of helping to prevent disturbance. All this brought him forward, and gained him some valuable connexions. He was the first to promulgate the doctrine that yellow fever was not contagious—his dissections went to establish the existence of gastritis as an essential feature of it—and he was a warm advocate of antiphlogistic treatment. He had an attack himself, which shook his constitution. In the year 1794, Dr. Physick was elected, by the managers of the Pennsylvania Hospital, one of the surgeons to that institution. This period may be stated to be the dawn of his great surgical fame and usefulness; indeed the appointment was the stepping-stone to his fortunes. Surgery was then at a low ebb in America, and a disciple of John Hunter was wanted to reform it. The first thing he did was to improve the treatment of ulcers. He soon made the wards clear of them. His method of treatment in cases of inflamed and irritable ulcers was exceedingly simple. He directed the patient to be confined to bed, and to be kept strictly at rest; and in cases where the ulcer was situated upon a lower extremity, he caused the limb to be considerably elevated. He next direeted that mild and soothing applications should be made to the ulcer itself; and in conjunction with this he made use of proper constitutional treatment. In cases where the ulcer partook of an indolent nature, he always preferred effecting the necessary stimulation by means of local applications, whilst the patient was confined to bed, to permitting him to walk about, as sometimes recommended. Perhaps, even now, some parts of his method might be insisted on with advantage. In the year 1794, Dr. Physick was elected one of the physicians to the Philadelphia Dispensary. He subsequently was chosen one of the consulting surgeons to this same institution, and retained the situation till the time of his death.

In 1795, there was a considerable increase in his professional engagements, and his prospects of success in practice were flattering. He now commenced a Journal of his more remarkable cases, which he continued until 1810. It would seem that he operated well for cataract, the extraction of which he preferred; and his biographer is of opinion that his operations upon the eye, in conjunction with those for stone in the bladder, did as much in establishing his great surgical character as any others which he ever performed. In his first operation for lithotomy, in 1797, he accidentally divided with his gorget the internal pudic artery. The hemorrhage from the wounded vessel was exceedingly profuse. He immediately compressed the trunk of the artery with the fore-finger of his left hand, and then passed the point of a tenaculum under it; a ligature was then cast round it and firmly tied. This of course arrested the hemorrhage, but the ligature included along with the artery a considerable portion of the adjacent flesh. In order to obviate this inconvenience Dr. Physick subsequently contrived his celebrated forceps and needle for the purpose of carrying a ligature under the pudic artery.

It appears that Physick was dexterous in the treatment of stricture, and a first-rate maker of waxed bougies. In the year 1795, he invented an instrument which is much used (it may be modified) by some at present, for the purpose of cutting through a stricture which had refused to yield to the ordinary methods of treatment. This instrument consists in a lancet concealed in a canula, which is passed down to the stricture, and then the lancet is pushed forward so as to effect its division.

During the years 1797, 1798, and 1799, the yellow fever again ravaged Philadelphia, and Dr. Physick was again found in the foremost rank of those who had to contend against its ravages. Whilst engaged in the performance of his duties in the year 1797, he was attacked himself for the second time, with the fever, and his illness was so severe that for some time but slight hopes were entertained of his living. His recovery from this indisposition was exceedingly slow, and he was left in such an enfeebled state that he was obliged to go into the country to recruit his strength. During the prevalence of the yellow fever in 1798, Dr. Physick was again resident physician at the Bush Hill Hospital; and upon leaving the institution after the subsidence of the epidemic, he was presented in a flattering manner by the board of managers, with some valuable silver plate, as an acknowledgment of their "respectful approbation of his voluntary and inestimable services."

In 1800, he married Miss Eliza Emlen, by whom he had four children, two sons and two daughters, still alive. In the same year, he was requested by a number of students, in the University of Pennsylvania, to deliver lectures on surgery, which he did, and with success; five years afterwards, the Professorship of surgery was created in the University of Pennsylvania, and Dr. Physick was appointed to fill the chair. In 1802, he published a case of hydrophobia, and recommended tracheotomy. In this year, he performed his operation of passing a seton through an ununited fracture of the humerus. Dr. Randolph communicates a rather interesting circumstance in connection with this case.

"It so happened that, in the year 1830, I was requested to visit a patient in Third street, who was lying dangerously ill from an attack of remitting fever of a high grade. A few days after my first visit, in riding past his door in company with Dr. Physick, feeling very uneasy about the condition of my patient, I requested the Doctor to step into the house and see him with me, and give me the benefit of his advice. He complied with my request, and upon entering the sick man's chamber he immediately recognised him as the individual upon whom he had performed the operation which I have just described, twenty-eight years previously. Upon questioning the patient he informed us that the arm which had been broken was quite as strong as the other arm, and that he had never sustained any inconvenience from the operation. Eventually the man died; and having obtained permission to make a post-mortem examination, I procured his humerus, and still have it in my possession, regarding it as one of the most interesting and valuable pathological specimens extant. At the place of fracture, the two ends of the bone are perfectly consolidated by a considerable mass of osseous matter, in the centre of which there is a hole, showing the place through which the seton passed." 60.

Dr. Randolph assures us that Dr. Physick worked excessively hard. He appears to have been, in this, a worthy pupil of John Hunter, who asked, as our readers may remember, a young man to breakfast at six o'clock in the morning. It was Physick's custom, throughout the winter months, to rise at four o'clock in the morning. This hour being too early to disturb a servant, he was obliged to arrange his own fire. He would then sit down to his desk and prepare his lecture for the day; after which he would dress himself, and then take his breakfast, and leave his house between eight and nine o'clock, in order to attend to a most extensive and laborious practice. In addition to all this, he discharged his duties as Surgeon to the Pennsylvania Hospital, and to the Alms House Infirmary. He used often to remark, that in order to obtain entire success as a practitioner of medicine, it was necessary to work hard. Success was not made a present to him.

His manner, as a Lecturer, his biographer assures us, was grave, dignified, and impressive to an extraordinary degree. His style was clear and comprehensive, simple yet chaste. He was uniformly careful never to say too much. His choice of language was remarkably good, and he possessed the happy faculty of communicating knowledge agreeably and well, in great perfection. Perhaps one great reason for this was, that he never undertook to instruct others upon subjects which he did not clearly comprehend himself. He attempted no display of oratory; neither did he permit his reason and imagination to run wild in the regions of theory and fancy. His lectures were all carefully prepared and written out. He did not at all approve of extemporaneous lecturing; as he thought that in lecturing upon scientific subjects, and more especially such as involved the lives and happiness of our fellow-beings, no man had a right to place so much confidence in the strength of his memory as is implied in that practice. Possibly, Physick may be deemed over-scrupulous in this instance. Lecturers and lectures have so multiplied now-a-days that pupils have become particular, and will not listen to every-body. Written lectures read from books are not much relished, and a little precision must be sacrificed to popularity. Nor need memory alone be trusted to. Notes may be used of sufficient fulness to prevent either omissions or errors of moment, and the little that is lost in minute detail, is more than compensated by what is gained in freedom and effect. Physick was a practical lecturer, *the* great thing.

As a letter-writer he was punctual and peculiar. His letters in general were remarkably brief and pithy. Having said all that he considered necessary for the elucidation of his subject, he invariably stopped. He would reply to a letter of three or four pages closely written, in about as many lines. He was excessively annoyed at receiving, and being obliged to read letters of an unmeaning and unnecessary length. The same thing took place with respect to books. A complaint not confined to Physick.

In the year 1809, Dr. Physick performed successfully that operation for artificial anus, which anticipated the procedure of Dupuytren. Previous to his death, Dupuytren was fully satisfied that Physick had preceded him in the invention.

In the Winter of 1813-14, he suffered from a severe attack of typhus fever, which again shook him severely. From this time, indeed, he never enjoyed good health. He grew subject to dyspepsia, and to frequent attacks of catarrh, and his susceptibility to this condition increased to such an extent that he was obliged to observe the most rigid precautions in order to guard against it. His method of treatment when labouring under a severe cold, required confinement to a warm room; and in fact he accustomed himself to a degree of heat in his apartments which to many others was almost insupportable. In addition to this he always employed the strictest antiphlogistic treatment, as regarded his diet and his remedial agents; treatment, in Dr. Randolph's opinion, far too debilitating, and the cause of his subsequent prostration.

About this period he began to experience certain unpleasant symptoms, indicative of a diseased condition of the heart, and which eventually terminated in organic affection of that organ. And he suffered too from calculous concretions in the kidneys. "It is impossible," says his biographer, "for language to describe the pain and agony which he frequently endured from the passing of the small calculi through the ureters into his bladder. Upon one occasion, about ten years previous to his death, I knew him to be for near two hours without any pulse perceptible at the wrist, in consequence of intense suffering, caused by the lodgment of a small calculus in the ureter. It remained fixed in this situation for some days, and grew to the size of a small pea; it finally passed into the bladder, and was discharged a few minutes subsequently through the urethra." Dr. Physick was an advocate for animal ligatures, which he always employed. He adopted an ingenious contrivance for facilitating the discharge of ligatures which remained fixed in the cavity of wounds, either in consequence of being penetrated by new granulations, or from other causes. In such cases he twisted the ligature very firmly, and then secured it to the adjacent skin, by means of a small strip of adhesive plaster. The effect of this twisting is to tighten the noose at the extremity of the ligature, so as to compress completely the parts contained within it; and in addition to this, the natural tendency of the ligature to untwist itself keeps up a constant action and pressure upon the parts, and thereby causes ulceration.

Physick was at the height of his practice, when infirmities came fast upon him. He resigned his situations in the Philadelphia Dispensary, and in the Alms House Infirmary; and, in 1816, he resigned his situation as surgeon to the Pennsylvania Hospital. In 1819, he resigned the chair of Surgery in the University of Pennsylvania, and was transferred to that of Anatomy; which had become vacant the preceding session by the death of his nephew, Dr. John Syng Dorsey, an event which afflicted him sorely. In 1831, this last situation was too much for him, and he resigned it also. The Institution conferred on him the highest honour that it could, by electing him unanimously "Emeritus Professor of Surgery and Anatomy."

One of Physick's latest contributions to surgery, was an account of preternatural pouches, or sacs, situated at the lower extremity of the rectum, just above the verge of the anus. This form of disease, which is one of not unfrequent occurrence, is in many instances productive of the most severe and distressing symptoms. In 1835, Dr. Physick used an ingenious apparatus in the case of a gentleman aged 70, who had long suffered from an enlargement of the third lobe of the prostate gland. The following is Dr. Dorsey's account of it:—

> "The end of a small flexible catheter was introduced nearly to the bottom of a very thin sac or pouch, three inches long, and an inch and a half in diameter at the mouth. The edges of the sac, which was prepared from the intestine of a sheep, were secured to the catheter by a fine silk thread, wrapped around it with great care; and the material being as fine as the thinnest blotting-paper, adapted itself, when oiled, so closely to the instrument, that the bulk of the whole was less than that of a large sized bougie.
>
> After its introduction into the bladder, the membrane was injected with tepid water, and the mouth of the catheter being stopped with a peg, it was gently, but with some firmness, retracted. The consequent pressure at the seat of disease, gentle and uniform, and from the nature of the material used, as little irritating as possible, had the happiest effect in repressing the enlarged lobe of the gland; and afforded, for many months, great relief by facilitating the discharge of the urine. Although the patient took a severe cold immediately after the operation, he did not suffer more than he had previously; and on recovering from its temporary influence, he experienced a relief long unknown. The introduction of the instrument was again practised after an interval of some months, with great advantage.
>
> Much nicety is requisite in securing the edges around the catheter, so that there may be no roughness to cause irritation during its retraction. It was also deemed proper to wind the end of the thread loosely round the catheter and secure it to the stopper. The material employed was prepared and may be procured in France." 105.

Dr. Physick relieved another case by the same means; we confess that we should not expect much from it. The last operation he ever performed was the extraction of a cataract. It was on the 13th of August, 1837. From this time, his complaint went on increasing in intensity and violence. The symptoms of hydrothorax became developed to a most painful extent, and he suffered extreme agony from oppression at his chest and difficulty of breathing; so much so, that sometimes he became unable to lie down in his bed for whole nights together, but was obliged to stand upon the floor, supported by assistants. Some time previously to his death, anasarca took place; and in consequence of his remaining so much in the erect position, his lower extremities became enormously swollen and distended with serum. The integuments at length gave way, openings were formed, and these finally ulcerated and became gangrenous.

The Father of American Surgery expired without a struggle, on the morning of the 15th of December, 1837, at twenty minutes past eight o'clock.

Dr. Physick was, in private life, exemplary—a good man and a good citizen.

> "It must be admitted," says Dr. Randolph, "that by the community at large, Dr. Physick's private character was but imperfectly understood. This was owing to the habits of perfect seclusion which he contracted, and to the slight intercourse, other than professional, which he permitted himself to enjoy with his fellow-citizens. It must not be supposed, however, that this isolation arose from moroseness of character or want of inclination to mingle with society. A satisfactory explanation may be afforded by the entire self-abandonment with

which he devoted himself to his professional engagements. In my opinion this formed one of the most striking and remarkable points in Dr. Physick's character. I doubt very much whether history could show an example of a more pure and absolute devotion to professional pursuits than he exhibited.

In consequence of the reasons just mentioned, he was supposed by some to be stern and unfeeling, and wanting in the kinder sympathies of our nature. There could not be a greater misapprehension. His feelings were tender and susceptible in the extreme; and could those persons who entertained an opposite opinion have been admitted behind the scenes, and to closer and more intimate relations with him, they would have acknowledged the great injustice they had done him in such a surmise. Many instances might be cited, were it expedient to occupy the necessary time, in order to illustrate Dr. Physick's extreme tenderness of feeling. At an early stage of his professional career, he performed a few experiments upon living animals, with the view of determining some physiological points. This formed a lasting subject of regret to him as long as he lived; and he could not divest his mind of the idea that he had been guilty of a useless as well as a wicked act of cruelty.

Previously to his performing important surgical operations, his feelings were so harrowed up, and he experienced so much anxiety, that it was the custom of his family to endeavour to prevail upon him to execute such operations as speedily as possible, in order to relieve his mind." 111.

Thus we have another example of the indisposition to perform great and bloody operations, experienced by a really eminent surgeon. A noble trait in such minds as those of Cheselden and Physick. We complete the picture of an estimable, as well as a distinguished medical man, when we add, that, in his intercourse with his professional brethren Dr. Physick's conduct was regulated by the strictest principles of honour and integrity. Whenever he was called in consultation with other physicians, without enquiring how exalted or humble their positions might be, he was scrupulously careful to avoid saying or doing anything which could wound their feelings, or prejudice them in the least in the estimation of their patients. He invariably stated his own opinions in a frank and manly manner, and was ever willing to pay due deference to the opinions of others. Upon all occasions he was happy and ready to confer upon his fellow-practitioners the benefit of his advice and experience, whether the information desired had special relation to themselves, or to those under their charge. He was far removed above the meanness of interfering with the patients of others; and whenever he had it in his power to render a service to a younger member of the profession, by a word of encouragement or commendation, it was cheerfully bestowed.

Physick is justly regarded in America, as the father of her surgery. His native land is proud of her son, and the "Old Country" may lay claim to a share in forming his professional character. Possessed of great application, a mind of healthful energy and purpose, and a love for the profession he had chosen, Physick had the qualities of head and heart, which are calculated for success in either hemisphere. The lessons of John Hunter had sunk deep into his soul, and the pupil was animated with a generous ambition, to prove himself worthy of the master. The integrity of the man supported and dignified the ability of the surgeon, and Dr. Physick may properly and usefully be cited, as one of the many models of professional life, that our annals are rich in. It gives us a mournful pleasure to pay this tribute to his memory, and to paint the virtues of this good, and, in his own science, this great man, for the contemplation and the benefit of the youth of America and Britain.

This article has spread to too great a length to permit us to touch upon Mr. Pettigrew's excellent work. In our next number we shall return to it, and as Mr. Pettigrew has brought it to a conclusion, we shall give an account of those lives contained in it which we have not hitherto noticed.

ON THE ANATOMY OF THE BREAST. By Sir *Astley Paston Cooper*, Bart. F.R.S. D.C.L. G.C.H. Serjeant-Surgeon to the Queen, Consulting Surgeon of Guy's Hospital, Member of the National Institute of France, &c. &c. Quarto, pp. 193. London, Longman and Co. 1840.

WE cannot avoid transcribing the Dedication of this splendid work. It places in so favourable a view the head and the heart of its author, that none who read it would wish it unread again.

> " *To the Members of the Medical Profession.*
>
> My Dear Brethren,—I dedicate this work to you for two reasons.
>
> First: To express the delight I feel at observing your increased love for the Science of the Profession, and your earnest desire to found your practice on an intimate knowledge of Anatomy, Physiology, and Pathology.
>
> Secondly: To thank you for your unwearied kindness and attention to myself during a period of fifty years.
>
> Should I by this work add anything to your knowledge of the Anatomy of the Breast, I shall have received the utmost and only reward which I am anxious to obtain by its publication.
>
> With every wish for your prosperity, I have the pleasure to remain,
>
> Yours, most sincerely and gratefully,
>
> ASTLEY PASTON COOPER."
>
> *Conduit Street, January,* 1840.

Perhaps no man in our profession has ever occupied so enviable a position as Sir Astley Cooper does at present. By force of an industry which never tired, of talents well suited to the science which he chose, of physical accomplishments which could execute all that genius prompted, and were excellently qualified to win the admiration which a noble bearing extorts even from judgement and from age, Astley Cooper attained, and kept so long as himself could wish, *the first* place as an English Surgeon. Rich in wealth and in the world's regard, full of years and honour, the ambition of place and of gold contented, Sir Astley Cooper looked for something higher, more remote, more difficult to reach, and more lasting than money or popular esteem or any current distinction—he looked for the reputation of benefitting the profession and advancing the science that he loved. He retired from the active pursuit of practice, and commenced that series of investigations which have produced the splendid works on the Structure and Diseases of the Testis, the Thymus, and the Breast. These investigations have been conducted in the liberal manner which can alone, in these days, command success: time, and trouble, and pecuniary expenditure being held of no account, and lavished profusely on them.

To these works, composed in the evening of his days, Sir Astley Cooper may turn with an honest pride, and regard them as the sureties of posthumous fame. The desire of success may have prompted his earlier exertions, and the treatise on Fractures and Dislocations was the creature of experience that Fortune might have given. But that "age of ease" which is held up to our natural aspirations, is voluntarily broken in upon by Sir Astley Cooper, and turned to a period of activity and of toil as unremitting and productive, as if life were only just begun, and fortune and a Baronetcy in the perspective. Possessed of all that men most covet, of rank, property, reputation, a vigorous constitution, which unites the buoyant spirit of youth with the sober tranquillity of age, Sir Astley Cooper is an eminent object of attention and of imitation. Few can expect such fortune—all *may* emulate his zeal—and all *will* own his merits.

How true are the following remarks, how characteristic of the man, how simple an explanation of his success.

> "I have restricted myself to describing from my own preparations only; and if every author in our profession would adopt this plan, and merely write on what he is capable of demonstrating, preserving, and exhibiting to others, the medical world would not be overwhelmed with those crude opinions, theories, and conjectures, which, according to the present system of quoting all that has been written, are sure to compose the greater part of the works that issue from the press. My rule has been to publish that only which I could show to those who were sceptical, and were yet desirous of arriving at the truth. The preparations delineated in my works on Hernia, on Dislocations and Fractures, on the Breast, on the Testis, and on the Thymus Gland, are all in good preservation, and can be immediately referred to, as they are either deposited at St. Thomas's or Guy's Hospital, or in my private collection. The parts represented in the present Description of the Structure of the Breast, are all in my own house.
>
> Let all who labour in the Science of the Profession adopt this method, and we shall soon have numerous and useful specimens of normal and of morbid structures. Such preparations, collected both by private teachers, and by the medical persons attached to our different hospitals, will form a basis of valuable and undeniable publications for the present generation and for posterity." vii.

The following are Sir Astley's directions for preparing the human mamma for demonstration. First, it is necessary that the breast employed for the purpose should be that of a woman who has been for some time suckling: for the breasts of a woman who dies of puerperal fever, in the first few days or weeks from her confinement, are not in a fit state to be clearly developed, as the milk cells are not completely evolved, and the gland is so loaded with blood, that the ducts and glandules are obscured in it, not only at the time of injection and dissection, but when afterwards dried.

Secondly.—It is usual to inject the ducts with quicksilver; but this injection, although it answers well in displaying the milk cells, yet does not succeed in distinguishing the various lactiferous tubes of the different parts of the gland; and in the subsequent dissection, it is scarcely possible to avoid cutting the ducts, emptying the gland, and spoiling the preparation, however previously beautiful.

It is, therefore, better to inject the gland with size of different colours, or with coloured wax, by which at once each duct is distinctly shown, and evn the cells will be displayed.

The various ducts are so interwoven and intermixed with each other, that they can by these means only be distinguished, or their distribution be clearly demonstrated. Quicksilver gives a general idea of the structure, but coloured injections a clear, distinct, and very intelligible view of the whole; and the dissection may be readily conducted, without injury to the preparation.

Thirdly.—To ascertain the quantity of glandulous matter, at different periods of life, it is requisite that the breast be put for a short time in boiling water, when the skin and fat become detached, and the gland, like other albuminous compositions, is left extremely hardened, and perfectly insulated and separated from the surrounding parts. This process furnishes an opportunity of giving an estimate of the quantity of gland, at puberty, in the adult, and in old age; as will be seen in one of my plates. Dried, after being boiled, the gland may be preserved for many years.

Fourthly.—To unravel the milk ducts, and to demonstrate the fibrous tissue of the gland, it is to be macerated in warm water, and dissected from day to day; and its ducts and glandules will be separated and shown. A section of the breast should also be made, from the nipple to the pectoral muscle, and then macerated in warm water, and daily dissected, when the ducts, the secretory structure, and fibrous suspensory tissue, will be shown, between the gland and the skin in the interior of the organ, and in its passage to the aponeurosis of the pectoral muscle.

Fifthly.—To show the connexion of the breast with the fascia of the thorax, the axilla must be carefully dissected in the adult, and its fascia traced.

Sixthly.—The arteries, veins, and absorbents, must be minutely injected. These vessels are large at the period of lactation, but small before and after that process, and are then injected with difficulty.

Lastly.—To trace the nerve in the mammary gland, and in the nipple, the arteries must be previously injected with a fine injection, properly coloured, for if this be not done, it is impossible to distinguish their minute divisions from the finer branches of the arteries.

Form and Situation of the Breast.

The breasts, or mammary glands, are composed of two sets of parts—the *external* and the *internal*. The external comprise the nipple, or mamilla, areola, tubercles, and some glands. The internal is the secretory organ, made up of an assemblage of small secreting bodies, or glandules, from which proceed the excretory vessels, or lactiferous tubes, to the nipple. The glandules and ducts are united to each other, by means of a *fibrous* and inelastic membrane, which penetrates the surface of the gland, and sends fibres into all its interstices, and by uniting its small constituent glandulous bodies, forms it into what is called a conglomerate gland.

A cellular membrane, both reticulated and adipose, also enters into the composition of the gland; and in this membrane not only is abundance of fat deposited, but also the arteries, veins, absorbents, and nerves hold their course, and are distributed to the substance of the gland, and to its appendage the nipple.

> "The breasts are slung upon the chest, supported by the fibrous tissue, and they are projected at the nipple *forwards* and *outwards*. I have, in my work on the Testis, pointed out the errors of those who paint or chisel from imagination, and not from observation of nature, in placing those bodies of equal height, although the left is usually much lower than the other; and the same remark may apply to the breasts; modellers, sculptors, and painters sometimes represent the nipples as being pointed forwards, and place them as their imagination leads them to conceive them to be, and not as they really are. It is modern artists who fall into this error, for the ancients modelled from the living subject, and gave accurate representations of nature." 11.

This obliquity of the nipple is a beautiful provision of nature, as when the child rests upon her arm and lap in the most convenient position for sucking, for if the nipple and breast had projected directly forwards, the child must have been supported before her by the mother's hands in a most inconvenient and fatiguing position, instead of its reclining upon her side and arm. But it is wisely provided by nature, that when the child reposes upon its mother's arm, it has its mouth directly applied to the nipple, which is turned outwards to receive it; whilst the lower part of the breast forms a cushion upon which the cheek of the infant tranquilly reposes.

The following observation is important:—The margins of the breast do not form a regular disk, but the secreting structure often projects into the surrounding fibrous and adipose tissue, so as to produce radii from the nipple of very unequal lengths, and a circular sweep of the knife cuts off many of its projections, spoils the breast for dissection, and in surgical operations leaves much of the disease unremoved.

Sir Astley believes that the existence of two mammæ is a provision against disease or accident. He refers to the case of four mammæ related by Dr. Lee.

Frequent lactation, says Sir Astley, even in our own climate, leaves the breasts relaxed and pendulous, and alters both their form and their direction; it is, therefore, right that they should have a sling under them, a cushion, or stays to support them, to prevent their undergoing a change, which may by care, be, in a great degree, obviated. But it is the influence of warm climates which relaxes them most, and hence the women of the East and West Indies, who have had several children, have their breasts hanging to the upper part of the abdomen, suspended by a thin portion of skin from the part at which they originally grew. This relaxation allows them to suckle over the shoulder; the child being suspended from the back, elevates the breast to the clavicle, or if the breast be carried into the axilla, the child can suck under the arm, if the latter be raised. The Hottentot women make a shelf of their enormous nates for the child to rest on, while it sucks the breast slung, like a bag, over the shoulder.

It is of importance to be acquainted with the natural *feel* of the breast at different periods of life.

> "The sensation imparted to the hand in feeling the breast, at different periods of life, very considerably varies. At the age of puberty, and for many years afterwards, the breast is dense, compact, smooth, and equal; but so soon as they become employed in lactation, they begin to separate into small bodies

with indentations around them, and this arises from the stretch and relaxation of the uniting cellular and fibrous membrane. Even in single or childless women the breasts, towards the cessation of the sexual secretion, become often exceedingly lobulated. In age the lobulated feeling ceases from the absorption of the glandular structure. The return of the menstrual secretion also makes a great difference in the feel of the breasts, as they then become full, tense, and painful, and an ecchymosis sometimes appears. It is of importance to know these changes, as they lead to a clearer diagnosis in disease." 20.

Structure and Constitueut Parts of the Breast.

Sir Astley proceeds from without inwards.

The Nipple or Mamilla.—It is situated nearer the abdominal than the clavicular margin of the gland.

Its form is that of a cone, rather rounded at its extremity in the virgin, but it forms a flat surface in the lactating woman, the centre of which is cribriform, being perforated by the numerous terminations of the lactiferous tubes, which are placed in a cleft before lactation, but are spread out upon the surface pending that period.

In the child, continues Sir Astley, the nipple scarcely rises above the skin of the areola, but it usually grows to the age of puberty; in the adult female it is from half an inch to three quarters in length; in lactation it is often an inch. After fifty it remains elongated, but relaxed; in old age it is sometimes in a great degree absorbed, and when thus wasted, appears as a mere wart.

The nipple is nearly smooth until puberty. At fifteen years it has a cleft near its centre, in which are the orifices of the lactiferous tubes, and it forms an uneven hemispherical projection.

At sixteen years it is slightly wrinkled; at seventeen it has small papillæ upon its surface. From twenty to forty years the papillæ are large; from forty to fifty the nipple becomes wrinkled; from fifty to sixty the nipple is elongated, and in old age it usually has a warty appearance.

The colour of the nipple varies at different periods of life, and under different states of the uterus. In infancy it is of a pinkish-red; at puberty of a more florid red. In young women of a slightly brownish red, but in pregnancy it becomes of a very dark colour. In old age it becomes again more of the hue of the surrounding skin, although it sometimes remains very dark. The nipple is often defective, or buried in a cleft, and is sometimes entirely wanting; the first makes nursing difficult, and the second prevents it altogether.

The nipple is made up, *first*, of the common integuments—*secondly*, of the fascia covering and surrounding the lactiferous ducts—*thirdly*, of the milk tubes—*fourthly*, of the common organization of arteries, veins, absorbents and nerves—*fifthly*, of cellular tissue, in which those parts are found.

The Cuticle covers the nipple and projects between its folds and into its depressions. It sends processes into the lactiferous tubes, which processes may be drawn out after continued maceration. In women of light complexions, and more especially those with red hair, the cuticle is extremely thin, and is frequently subject to abrasion from the application of the child's lips in sucking, and the process of nursing is, from this cause, rendered exceedingly painful. Astringent applications, or even a shield, become necessary. Incrustations often form on the nipples of girls, covering their clefts and points, and requiring attention to prevent ulceration, which the unguentum hydrargyri nitratis, or unguentum zinci, are most fitted to oppose. In age an incrustation of a much firmer kind fills the cleft and covers the point of the mamilla.

The Rete Mucosum is not so abundant on the nipple as on the areola. It enters, with the cuticle, into the lactiferous tubes, and, in the larger mammalia, may be seen terminating, by a fringed edge, at a few lines from their extremities.

Some follicles exist in the nipple, and admit the cuticle and rete mucosum.

The Cutis of the nipple, in the state of lactation, is divided into two surfaces; the first forming the disk or circumference of the nipple, and the second its truncated apex.

The disk is composed of a great number of papillæ, which produce a vascular and sentient surface, and which form its erectile and highly sensitive tissue.

The direction of these papillæ is from the base towards the apex of the nipple, so that they are pushed back as the mamilla enters the mouth of the child, and thus greater excitement is produced. We need not dwell upon their form. They are very numerous and large, and highly vascular.

Erection of the nipple, says Sir Astley, has been supposed to arise from the passage of the blood into an elastic, cellular structure, like the corpora cavernosa penis, but there is no such formation in the nipple. It is a state arising simply from the determination of blood into the little bushes or assemblage of capillary arteries in the nipple and papillæ. The blood is propelled forwards to the papillæ by the action of the heart and arteries, so that by this vis a tergo, the capillary arteries become extremely distended, and erection is produced; it more slowly escapes through the little branches of communication with the veins, and which are more distant from and less under the influence of the vis a tergo from the heart, which is the principal source of the circulation; thus a congestion of arterial blood is produced in the capillary arteries. But when the excitement subsides, the blood is no longer directed with the same impetuosity upon the papillæ, and the veins will then remove the congestion in the extreme branches of the arteries, as the vis a tergo has in a considerable degree subsided.

In lactation, the orifices of the lactiferous tubes terminate in a kind of cribriform net-work, between the meshes of which the milk escapes. This net-work being very little elastic, yields but slightly to the pressure of the milk, so that the orifices of the ducts continue of very diminutive size, not only in woman, but in other animals: thus it is that the escape of the milk is prevented, excepting under excessive distention and in the process of suckling. The tubes, internally, are wrinkled longitudinally.

A fibrous tissue, or fascia, internal to the cutis, connects the nipple to the gland of the breast. The cellular tissue of the nipple is reticular, not adipose.

Of the *arteries, veins, absorbents,* and *nerves,* we need not speak, although they are described with admirable precision.

> "In addition to the structures which I have described, there are, at the apex of the nipple, the numerous and minute orifices of the lactiferous tubes, which amount to more than twenty orifices when in great numbers, and from twelve to fifteen in others, but I cannot be sure that all the openings are lactiferous ducts, as some may be follicles only." 35.

Of the Areola.

The circle of skin which surrounds the base of the nipple, smooth until puberty, when it has little eminences and tubercles upon its surface.

The diameter of the areola in a child is about half an inch. At puberty, and in young women, it is an inch; during lactation, it is two inches or more; and although, in after age, its colour diminishes, its diameter remains almost the same, excepting in very old persons, in whom it disappears.

In the infant it is of a pinkish red; at puberty, of a darker red; in lactation, it becomes of a very dark colour, approaching that of the negro skin; in age it remains dark, but in old age it sometimes loses its colour, which becomes like that of the surrounding skin. This change of colour is an useful sign of pregnancy; but Sir Astley has known a diseased and excited state of the uterus after marriage, when that organ had become enlarged, but not impregnated, produce a swelling of the breasts, and a discoloration of the areola.

Sir Astley gives the following simple explanation of the darkening of the areola in pregnancy.

> "The quantity of rete mucosum secreted must depend greatly upon the quantity of blood determined to the part. As soon as the influence of the uterus and ovaria is felt by the breasts, and they swell from more blood being determined to them, the rete mucosum is more largely secreted, and the colour of the areola and nipple becomes darker.
>
> When the pregnant state of the uterus enlarges the breast, by increasing the flow of blood to it, the rete mucosum increases in quantity; but still more in lactation, when the nipple and areola are greatly excited, the depth of colour is the greatest, and the best opportunity is afforded of observing the colouring matter.
>
> As the circulation declines in age, the rete mucosum diminishes in the areola.
>
> The menstrual secretion has, from the change thus produced upon the breast, some influence upon the colour of the nipple and areola."

The *Cutis* of the Areola presents papillæ, like those of the nipple, but smaller. Their apices are directed towards the nipple, so that they are opposed to the papillæ of the lips of the child. Their use is three-fold. First, they give a greater adhesion to the infant's lips in sucking; and secondly, they add to the sensibility and sympathies of the areola with the mammary gland; thirdly, they form a surface which is embraced by the child, and received into its mouth, so that the large lactiferous tubes behind the areola are emptied by the pressure of the lips of the infant.

The areola is, therefore, to be considered as an extension of the nipple, the base of which latter is lost in the former.

The Tubercles, or Mucous Glands of the Areola, are very perceptible at the base of the nipple, and upon the surface of the areola. Their orifices, in number from one to five, are visible to the naked eye. Sir Astley proves them satisfactorily to be mucous glands, which perform these offices:—first, they discharge from their little springs a lubricating secretion; secondly, they add to the firmness of adhesion of the child's lips; and thirdly, they give greater sensibility to the areola, and sympathetically excite a larger secretion from the mammary gland.

They are much enlarged in lactation, and pour out a fluid, which is coagulated by alcohol, and its appearance is like that of white of egg. The fluid they secrete has a tendency to lessen that excoriation which, when it does occur, renders suckling almost an agony. They are extremely vascular, lobulated, and cellular. Each orifice opens into an arborescent vessel, or vessels.

On the general surface of the *Skin of the Breast,* are a number of *Sudatory Glands*—from which much perspirable, and mucous matter can be squeezed; and from, or near them, small hairs proceed.

On the Internal Parts of the Breast or Mammary Gland.

The parts which enter into its composition are:—*First,* the fascia mammæ. *Secondly,* the lactiferous tubes, or milk ducts. *Thirdly,* the glandules in which the milk is secreted. *Fourthly,* the milk cells. *Fifthly,* the common organization of arteries, veins, absorbents, and nerves. *Sixthly,* the fat and cellular tissue.

The Fascia Mammæ.—It forms a superficial and a deeper layer, including the gland of the breast between them, and starting outwards from the ligamentous substance covering the sternum.

The anterior or superficial layer passes upon the anterior or cutaneous surface of the breast: here it forms a fibrous covering, but not a true capsule, spread upon the surface of the gland, and passing between the gland and the skin; but it also enters the interior of the secretory structure.

Here it sends out two sets of processes of a fibrous nature from its two surfaces.

Anteriorly, large, strong, and numerous fibrous or fascial processes, to the posterior surface of the skin which covers the breast, into the substance of which it is received, and with which it is incorporated.

It is by these processes that the breast is suspended in its situation. Sir Astley, therefore, calls them the *ligamenta suspensoria.*

When the breast is placed in its natural position, the posterior extremities of the ligamenta suspensoria are spread over the fore-part of the gland, support numerous folds of the glandular structure, penetrate the substance of the organ, and everywhere connect the portions of glands to each other. A process proceeds to the nipple, and, as has been stated, connects it with the gland. Between the ligamenta supensoria, the lobes of fat are placed, which serve further to defend this organ from injury.

The posterior layer of the fascia, when it has reached the margin of the gland, passes behind it, and sends forth two layers of fibres. The anterior of these fibres pass on the back of the gland, sending processes of fascia into the organ to unite its parts, and other fibres which pass from one ridge of the gland to the other posteriorly, giving it a smoother surface than that of the anterior part of the breast, as it is not folded in the same manner.

The other fibres of this deeper seated fascia pass backwards, and are united to the aponeurosis of the pectoralis major.

Thus then, sums up Sir Astley, the breast is supported by the two portions of fascia; the superficial layer connecting it to the skin anteriorly, and forming the ligamenta suspensoria, and the posterior layer of fascia joining it to the pectoral muscle, by its aponeurosis; and between these two processes it swings, and yields to pressure and to violence. Whilst the fascia thus affords support, it also firmly unites the different portions of the gland to each other, throughout the whole of the substance of the organ, by entering into its interior composition.

The Glandular Structure of the mamma, traced from the nipple back into the gland, in a contrary course to that of the milk, is made up:—*first*, of the straight lactiferous tubes in the nipple, or the *Mammillary Tubes*. *Secondly*, of these tubes suddenly enlarged at the base of the nipple, and under the areola, and which contain a large quantity of milk; these are the *reservoirs*, or areolar tubes. *Thirdly*, of these tubes becoming arborescent in each part of the gland, and forming the mammary ducts. *Fourthly*, of *glandules*, disposed in lobuli, which constitute the principal part of the mammary gland, and from which the milk tubes originate. *Fifthly*, of the milk cells, into which the milk is first secreted by the mammary arteries.

Of the Straight, or Mamillary Tubes.—"The greatest number of lactiferous tubes I have been able to inject, has been twelve, and more frequently from seven to ten. But the greatest number of orifices I have been able to reckon has been twenty-two; however, some of these might have been follicles only, and not open ducts. I have had delineated two preparations of straight tubes, in one of which I found thirteen, and in the other twenty-two." 53.

Their size varies, some of the orifices only admitting a bristle, while others are as large as a common pin.

"They commence in a cribriform surface formed by the skin, with some mixture of fibrous tissue; so that these orifices do not increase much, or yield to the pressure of the milk. A probe of large size will pass to their orifices, if introduced from the gland, but it cannot be made to escape through the orifice of the duct, without employing great force to overcome the resistance, and even to lacerate the orifice; in that respect resembling the urethra in the female, which will admit the little finger from the bladder, but only a probe at its orifice." 53.

When the mamillary or straight tubes have passed these orifices, they begin to dilate, and to assume a conical form, gradually increasing in diameter to the basis of the nipple, and are therefore much larger than at the apex of the mamilla.

They are surrounded and enveloped by the fibrous tissue which lines the nipple, and which sends fibres between the tubes to keep them in their situation, and to strengthen them, and prevent their laceration.

The branches of arteries, veins, nerves, and absorbents pass, in cellular tissue, between the ducts. The mamillary tubes, when cut open, are found lined with mucous membrane, wrinkled longitudinally, and highly vascular.

The Areolar Portions of the Tubes, or Reservoirs begin at the basis of the nipple, extend under the areola, and to some distance into the gland, when the breast is in a state of lactation.

Their greater size than that of the mamillary tubes is in part owing to the loss of the pressure of the nipple, but principally to the number of branches of milk tubes which enter them from the breast; five or six large branches are combined in a reservoir.

These receptacles are of a conical form, like the mamillary tubes; and they begin from the extremities of the larger branches of the milk tubes, and terminate in the straight ducts of the nipple.

The appellation of reservoirs is less applicable in the human female than in other animals, for example, the cow; in her, they are capable of retaining a quart of milk, or more.

In the human subject they generally radiate from the nipple, although some of them pass directly backwards to the posterior or pectoral surface of the gland.

Their calibre is out of all proportion larger than that of the straight or mamillary tubes, and much larger than that of the milk tubes, which form their continuations.

When cut open, the reservoirs are found to be lined with a very vascular mucous membrane, like the mamillary or straight ducts, but they have a fibrous coat upon the outer side of this, which preserves their form, and which gives them their power of resistance to the great dilatation which the milk would otherwise produce. Their use is to supply the immediate wants of the child when it is first applied to the breasts, so that it shall not be disappointed.

The Mammary, Lactiferous, or Milk Tubes begin from the glandules, or secretory structure, in small and numerous branches, and increasing in size, terminate in forming the reservoirs.

They divide into branches, which increase in number as they proceed from the centre to the circumference; and their general appearance when injected, resembles that of the root of a tree.

The radiations of one of the mammary tubes sometimes occupies one-sixth to one-fifth of the circumference of the breast. On the sternal and clavicular aspect of the breast, a single duct radiates to the margin; but upon the axillary and abdominal aspects, two or three ducts ramify to the circumference of the gland, so that two or three ducts are placed upon each other. Hence the greater thickness of the lower and outer part of the breast, which enables it to form a cushion, on which the cheek of the child reposes.

The branches of the ducts do not radiate equally to the circumference, for some are much longer than others, and are lost on the fascia which encircles the breast, rendering its margins unequal.

In other parts the ducts at the margin of the gland are turned upon the gland, so as to form a kind of hem at its circumference, and to produce also a thickening of the substance of the breast from this cause.

Many of the mammary tubes upon the anterior surface of the breast are turned forwards to the skin, and connected to it by the ligamenta suspensoria; so that in removing the skin from the fore part of the breast, many of them are necessarily divided.

The breast is not formed into regular lobes by the ramifications of the ducts, because they ramify between, and intermix with each other.

"The most simple idea," ingeniously continues Sir A. "which can be formed of the mammary ducts, especially at the lower and outer part of the breast, is, that supposing them to resemble the roots of trees, as they do, that one root is growing between others, destroying regularity, and distinctness of their growth. Or suppose one hand applied upon the back of another, and the fingers introduced between each other, and then the fingers of one hand inclined to the right, and those of the other to the left, it conveys the idea of the above-mentioned intermixture." 59.

On the posterior surface of the gland, which is more smooth than the anterior, the ducts ramify more equably.

The mammary ducts do not communicate with each other, as is easily shown by throwing injections of different colours into the ducts, or by injecting one duct only.

"I have only seen one instance to the contrary of this position, in injecting a milk tube from the interior of the gland towards the nipple, two large branches of ducts crossing each other, where they laid in contact, the injection found its way by rupture, or by a deviation from the natural structure, from the one into the other duct, of which I have given a figure; and as this has only occurred once in more than two hundred times, it shows that it is not the result of a common structure. In the cow, the goat, and the ewe, in which there are different glands terminating at each teat, in a single duct, when the injection is thrown into one teat, it does not escape into any other gland." 60.

After lactation, when the mammary gland is injected, the lactiferous or mammary tubes appear cellular, for wherever two or three large branches enter, a sudden increase of size is produced, so as to form a little pouch, open at each end. These dilatations are also seen during lactation, when two or three branches are received at any part of the ducts.

The mammary ducts are formed by a fibrous coat upon the outer side, and within, by a mucous membrane. The latter is highly vascular.

Of the Gland.—The mammary ducts begin directly from the glandular structure, in very fine and minutely divided radiated branches, and after becoming larger and larger as they approach the areola, they terminate in the reservoirs.

The gland is constituted by the union of a number of glandules, which are connected by means of the fibrous or fascial tissue of the gland.

When injected and unravelled, they appear of considerable size; but when further examined, these larger bodies are divided into small glandules.

Between these glandules, the mammary tubes may be observed to ramify, and from these bodies their branches directly spring.

When these glandules are filled with injection, and for a long time macerated in water, and unravelled, they are found to be disposed in lobuli; and when a branch of a mammary tube is separated, with the glandules attached, the part appears like a bunch of fruit hanging by its stalk.

The body of the gland is formed by the union of these little glands, everywhere interspersed through it, and united by fibrous tissue.

Their size depends upon the state of the breast; after puberty they exist, but are not easily separated or unravelled.

In lactation they are large, may be minutely injected, and distinctly developed. In age they diminish gradually, and after a time disappear, leaving the ducts still distinctly ramifying, but without the true glandular structure.

On the anterior surface of the breast, the glandules are drawn towards the skin by means of the ligamenta suspensoria, and form folds or loops, like the petals of flowers; a disposition which, without increase of bulk increases the secreting surface.

The margin of the gland is extremely irregular; for it forms numerous processes, which proceed into the surrounding fibrous and cellular tissue. The lower and outer aspects of the gland are so folded as to give additional thickness there, while the greater number of glandules there contributes to the same effect. But the posterior surface of the breast is not folded and looped up like the anterior; but the ducts and glandules are, in the larger part of this surface, disposed in ridges connected by a fibrous membrane, which mats them together, and enters between the ridges into the interior of the gland.

The breast then is made up of an assemblage of glandules, united by a fibrous tissue.

From the nipple the gland begins to form little petals like those of a blooming rose, and they are turned forwards to the skin, to which they are connected by the ligamenta suspensoria; and in the depressions between them, the fat is lodged.

The glandules vary in their size, from that of the head of a pin to the bulk of a small tare, when the breast is in a state of lactation.

Their figure is oval when they are uninjected, and they are more pointed at the extremity farthest from the nipple, than at the place at which the mammary duct enters them.

Of the Milk Cells.—When the lactiferous tubes are minutely injected, they are found to proceed from each glandule, and when an injection is made of the glandules with quicksilver, size, or wax, they will be seen to be composed, in their interior, of numerous cellules, which are the milk cells. Their number is very great, and too variable to admit of counting.

Their size in full lactation is that of a hole pricked in paper by the point of a very fine pin; so that the cellules are, when distended with quicksilver or milk, just visible to the naked eye.

They are rather oval than round, being slightly elongated where the branch of the lactiferous tube springs from them; but they appear more rounded to quicksilver, and when distended with milk, than when filled with wax.

When well injected and dried, the glandules form a kind of foliage in the breast, and each leaf is filled with these cellules. In the fulness of lactation, these leaves are full of cells, which can be readily injected and demonstrated; but at other periods they do not admit of being filled, and a most minute injection may then be made of the lactiferous tubes, yet no cells appear. Sir Astley has seen the lactiferous tubes become cellular, as they spring from the milk cells, but only just at their commencement, and under very minute injections.

He thinks that the cells are lined with mucous membrane, partly from their vascularity, partly from analogy; for, in the larger animals, as in the cow and the rhinoceros, the mucous membrane lining the ducts has no break in it, but may be seen to be continued so far as the parts can be traced by the eye, and by magnifying powers.*

The milk cells possess a considerable degree of elasticity, but in the human subject less than in other animals.

The arteries become extremely minute on the glandules, and around the cells. There are veins, of course; and absorbents arise from the cells in great numbers. The smallest branches of the nerves accompany those of the arteries. The course of the milk may now be understood.

> "It is secreted by the arteries into the *milk cells*, from which it is forced forwards by two causes; first, by the elasticity of the cells, which is proved to exist in many animals by injecting the cells minutely with quicksilver, and then if one of the ducts be pricked with a needle, all the lactiferous tubes become instantly emptied: but in woman this occurs less than other animals.
>
> Secondly, by the vis a tergo of the continued secretion, one portion of milk forcing forward the other, in a minor degree when the child is not applied, but when the draught occurs, a sudden rush of blood increases the secretion, and rapidly hurries the milk forwards to the nipple, to supply the wants of the infant.
>
> The milk is conveyed from the cells which are found in every point of the gland into the *mammary ducts*, which form radii, converging all of them towards the areola; and as these vessels are increasing in their diameters, little opposition is made to the progress of the milk, as it courses from the smaller to the larger tubes.
>
> When the milk is thus brought by the mammary tubes to the areola, it is received into the *reservoirs*, and in these, and in the mammary ducts, it is retained until the infant begins to suck; and here it will be seen that the form of the tube is reversed, for the mammary tubes are constantly increasing towards the nipple; but the reservoirs are large towards the gland, and become smaller towards the nipple, which gives them a power of retention until the discharge of the milk is required.
>
> The milk next passes into the mamillary ducts, or straight tubes of the nipple.
>
> These, like the reservoirs, are conical, with the apex of the cone turned to the point of the nipple, and as their orifices at the nipple are very small and unyielding, the milk is also again retained until the act of sucking removes it; and when the draught occurs, abundance of milk is hurried forwards to the reservoirs and mamillary tubes.
>
> The infant's lips and gums, and the suction produced by the exhaustion of the air in the mouth, not only mechanically empty the mamillary tubes, and overcome the resistance of their orifices, but also, by rendering them finer capillary tubes, assist, upon hydraulic principles, in giving rapidity to the passage of the milk." 70.

Of the Fat of the Breast.

The adipose matter is abundant. It is intended, says Sir Astley, first, to preserve the contour of the organ, by filling up all the depressions between the glandules.

Secondly, to regulate the temperature of the gland under exposure, whether from the poverty which preludes the possession of proper covering, or the caprices of fashion, which forbid its being worn.

---

* "Also after the secretion of milk has ceased, the secretory structure is often loaded with mucus."

Thirdly, for the purpose of allowing the breast to float in an oily fluid, for the adeps is fluid in the heat of the living body; and the gland thus eludes the injuries to which it might otherwise be liable.

Fourthly, to defend it from, and to lessen the effects of violence upon the the part, which heavy blows or falls might occasion.

In a large and fat person, the breast is far removed from the skin, and from the pectoralis major muscle, by the immense quantity of adipose matter placed before and behind the gland, and in the intervening structures.

On the anterior surface between the gland and the skin, we find the fat deposited in very large lobes between the ligamenta suspensoria and anterior folds of the glandular substance on every part of the breast, and it also exists between the layers of fascia beyond it.

It is formed by a vascular membrane of the cellular adipose kind. The thick cushion of fat placed under the skin enables women of the lower class to bear the severe blows which they very often receive. Sir Astley has seldom known them to suffer immediately any serious consequences. Thin women, however, will experience severe bruises, which, in a short time, disappear. Tumors in the breast are often imputed to blows received long before.

The fat is also deposited behind the breast, as before it.

When the period of lactation is passed, and the breast begins to be absorbed, fat is abundantly deposited, to fill up the deficiency of glandular matter, and to preserve the natural form of the part. But in very old age, both the gland and the fat become absorbed, and the chest is then flattened like that of the male.

Of the *Arteries* and *Veins* of the breast we need say no more than is contained in the following quotation:—

> "As the vessels are extraordinarily increased in some malignant diseases, and excessively distended with blood, so as to produce much pain to the patient, from this accumulation and distension, in addition to other causes, I have for more than twenty years been in the habit of bleeding in these complaints, by opening the veins of the part. When the pain is severe, and the functions of the chest are embarrassed, it affords instantaneous and great relief.
>
> For this purpose, I have always in my case, a needle which cuts upon each side, its edges being lancet-shaped, and after placing my finger on a large vein, formed by the junctions of several veins, and between the breast and the clavicle, I prick the vein with this instrument. A lancet would answer equally well; but it excites more apprehension on the part of the patient, and makes a larger wound.
>
> The opening is much smaller than that produced in bleeding in the arm.
>
> The quantity of blood considerably exceeds that drawn by leeches; and it may be extracted in three or four minutes to the amount of from four to six ounces, and the surgeon avoids the long-continued exposure which the application of leeches requires, and the trouble and inconvenience of the continued fomentation afterwards." 82.

A piece of lint and adhesive plaister should be applied over the puncture.

The *Absorbents of the Breast* possess a high interest for the surgeon, being, as they are, the carriers of malignant depositions into the system.

Without entering into the minute anatomical details, for which, as for much else, we must refer to the splendid work itself—we must content ourselves with extracting the summary of the route which such malignant matters take.

When the axillary, or clavicular side of the breast is affected, the absorbent glands in the axilla which are immediately connected with the mammæ, are diseased; and next the absorbents from the arm, and their glands; and then the arm becomes greatly enlarged. The cervical and subclavian glands are involved in the disease, and the absorbent vessels behind the scapula are affected.

When the sternal side of the breast is diseased, two lines *may be traced of absorbent enlargement;* first, from the breast, sometimes to the first and second, at others to the second and third intercostal spaces; and secondly, to the fourth and fifth intercostal spaces between the cartilages of those ribs, and then the disease proceeds concealed behind the sternum, within the anterior mediastinum.

When the disease is seated in the posterior or costal surface of the breast, or when the axillary glands are much affected, the disease enters the chest through the intercostal muscles, and passes between the pleura and the ribs, often in its course affecting the pleura, and producing tubercles in it, and it excites inflammation of this membrane, so as to cause adhesion between the costal and pulmonary pleura, and these adhesions become also malignant.

Sir Astley has seen the pleura to great extent thus diseased, towards both of the mediastina, with some adhesion of the lungs, and where they did not adhere, accumulations of water had taken place in the cavity of the chest. And the absorbent vessels themselves will become morbidly changed and obstructed, the tubercles are enlarged just under, and sometimes in the skin, and they form hard and knotted swellings in the circumference of the nipple.

The *Nerves of the Breast* are derived from the second, third, fourth, fifth, and sixth dorsal nerves, but mainly from the fourth and fifth.

On the *Evolution of the Breast* we cannot touch, but must direct our readers to Sir Astley.

Of the Effects of Gestation and Lactation on the Breast.

The breasts at this time receive much larger quantities of blood, and they generally swell and become painful, feeling heavy.

The nipple grows, and its papillæ become foliated and protuberant.

The areola becomes darker in its colour, thicker in its substance, and its diameter increases from one to two inches.

The tubercles and glands of the areola and those of the surrounding skin of the breast are rendered much more distinct and prominent than before.

The gland is loaded with blood. The ducts are enlarged, and injectible, but not so the cellules. After a few weeks' suckling, the nipple becomes very large and truncated at its apex, so as to form a broad flat surface, upon which the orifices of the lactiferous tubes are evolved; and the areola, as well as the nipple, can be in a great degree drawn between the lips of the infant when it is sucking. Milk cells can be injected in all the glandules.

Of the Milk.—Passing over a capital account of cow's milk, we stop for a few minutes at a comparison of *human milk* with it.

When first drawn, it appears more blue than that of the cow. It has a sweetish, but also a saltish taste. Soon after it is drawn, like cow's milk, it changes, if it be at rest, by a mechanical separation, from the less specific gravity of cream; the cream separating upon its surface so that it divides itself into cream and milk, but with this striking difference, that the milk in the human subject appears semi-translucent like whey, instead of being white and opaque as in the cow, so that it may be almost said to divide into cream and whey.

Of the Cream.—Its specific gravity is 1·021. The quantity of cream is abundant, if the woman be healthy; but it varies according to the age of the child, the habits of life, the food, the health and tranquillity of mind of the mother. In these respects women widely differ from other animals. From experiments it would appear that the cream, in comparison with the milk, is from one-fifth to one-third, varying with the health, the food, the habits, and state of mind of the mother.

The quantity of cream also varies as the time elapses from the birth of the child. A woman who was very poor, and had an exfoliation of the os frontis—7 measures of milk gave only 1 of cream. A woman highly fed—9 measures of milk had 3½ of cream.

The cream of human milk, agitated for a length of time, did not produce butter; but milk and cream mixed together produced, by long agitation, a white and soft solid, in small bodies, which became an aggregated white butter; but with difficulty, and after a length of time.

Of the Curd.—This appears less early than in cow's milk, but separates gradually after ten days or a fortnight, and continues to do so for a length of time.

Sugar of Milk. When the cream and curd are separated, the whey is found to contain abundance of saccharine matter, which is the sugar of milk.

The colostrum, or milk which is at first produced after parturition, appeared at first of a yellow colour, and thick consistence; but when it had stood twenty-four hours, it separated abundance of imperfectly-formed cream upon its surface. Nine measures gave 6 of cream and 3 of milk. The milk had a slight tinge of red, the cream a somewhat deeper tint.

The colostrum of the cow contains a great number of particles of various sizes, apparently made up of numerous cohering globules, so as to present an extremely granular appearance; these granular bodies, which are absent in ordinary milk, are completely soluble in ether, and consequently are composed almost exclusively of fatty or oily matter.

From an interesting chemical account of milk, furnished to Sir Astley Cooper by that talented young chemist, Dr. Golding Bird, we can only abstract the following concluding observations.

" Milk may be physiologically regarded as made up of three classes of ingredients; the first containing those which resemble vegetable secretions in the absence of nitrogen; the second including those which contain abundance of nitrogen, and consequently afford a proper pabulum for the growth of the young animal; the third class containing those ingredients which, in the present state of chemical physiology, we have no safe grounds for supposing are *digested*, or their elements re-arranged by vital chemistry, and hence differ from the first two classes in being rather *appropriated* by the vital influence of the infant animal, than assimilated to form such combinations.

A. *Ingredients of milk in which nitrogen is absent.* Sugar of milk, fatty matters.

B. *Ingredients of milk in which nitrogen is present.* Caseous matter.

C. *Inorganic or saline ingredients.* Salts of potass, soda, lime, and iron.

The latter class contains those earthy salts which constitute the chief ingredients in osseous structures; and all being dissolved in, or diffused through, abundance of water, become fitted to pass or drain through the minutest vascular tissues." 126.

On Lactation.

The secretion of milk commences on the third or fourth day after the birth of the child, but there is a fluid produced during the latter part of gestation, which is not true milk. The milk will continue to be secreted for many years.

The secretion may be *constant*, the production of the fluid being slow and continued; or *occasional*, when there is what is called by mothers and nurses, the *draught* of the breast, by which is meant a sudden rush of blood to the gland, during which the milk is so abundantly secreted, that if the nipple be not immediately caught by the child, the milk escapes from it, and the child when it receives the nipple is almost choked by the rapid and abundant flow of the fluid; if it lets go its hold, the milk spirts into the infant's eyes.

Even the sight of the child will produce this draught, or sudden rush of blood and copious supply of milk, as the thought or sight of food occasions an abundant secretion of the saliva.

The draught is also greatly increased by the child pressing the breast with its hands, by its drawing out the nipple by its tongue, lips, and gums, and by the pressure of its head against the breast.

In other mammalia, so far as we can judge, a similar process occurs, and the same effect is produced by the animal striking the udder with its head, and forcibly drawing out the teat.

The quantity of milk which can be usually squeezed from the mother is about two ounces from one breast, but necessarily varies with the state of the health and mode of nutrition; as to the quantity produced by the draught, there are no means of accurately ascertaining it.

A woman who milked her right breast for Sir A.'s information, and whose child was four months and a fortnight old, produced :—

On the Saturday Morning . . .	2 oz.
„ Sunday Morning . . .	2 „ 2 dr.
„ Monday Morning . . .	2 „
„ Tuesday Morning . . .	2 „ 6 „
„ Tuesday Evening . . .	1 „ 3 „

At seventeen months after delivery, a woman milked out 2 oz. when the child had been seven hours absent from the breast.

Sir A. has often had this experiment made, and has almost constantly found that the morning's milk is greater in quantity than that of the evening, and the same observation generally applies to the cow.

The secretion of milk will continue for many years in an healthy mother, if it be encouraged by the application of the child to the breast.

> " A woman had abundance of milk at eighteen months after delivery; another suckled her child for twenty-one months, and the child had no other food. Mr. Wakefield, of Battle Bridge, Pentonville, told me that he knew a woman who had suckled her two successive children, at the same time, and I have heard of an instance in which a wet nurse suckled two consecutive children."
>
> " Mr. King informed me that when travelling in the Arctic circle (?) he had seen an Esquimaux boy play out of doors with his bow and arrow, and come into a hut, to receive the milk of his mother's breast; and many children in our own country play about a room, and then run to their mother's breast, and sometimes fetch a stool to stand upon, whilst they pursue the process of sucking." 132.

If the mother wishes to wean her child, and she still secretes abundance of milk, the best mode of removing it is by giving an active purgative in the morning, and applying evaporating lotions.

> " Some women are prevented from suckling by want of milk; some by want of strength: some from a deficiency of the nipple; but too frequently it is the result of caprice, the fear of trouble, the dread of spoiling the figure, and from anxiety to avoid the confinement which it enforces; and in some from the contrary desire of having many children.
>
> However, it is quite true that there are women who are too feeble to continue to be nurses, after giving suckling a fair trial. It injures their digestive powers; they feel a sinking sensation in the stomach; loss of appetite; pain in the chest, back, and head; violent spasms from its influence upon the nervous system, and becoming emaciated, they are compelled to give up a duty which they have been most anxious to fulfil." 134.

In general, the milk of a woman who becomes pregnant disagrees with the child, or is actually refused by it.

> " The quantity of milk which a woman is capable of secreting, cannot be estimated by the size of her breast, as it often is large and hard rather than secretory, or it is loaded with adeps, and produces but little milk. The same remark applies to quadrupeds, as the cow with the largest udder does not always give the most milk. I know a lady, who, before pregnancy, has scarcely any breast; but it evolves largely in lactation, disappears in a great degree when the child is weaned, and again evolves with the next child. Now that she has ceased to have children, her breast is as small as that of a man, so that the chest in that respect resembles that of the male."
>
> " After the first few weeks of lactation, there is little difference in the milk of three, six, or nine months, as is proved by the children of wet nurses being older or younger than those they suckle, yet still the children they nurse are well nourished. The same thing is proved by nurses suckling consecutive children. Dr. Walshman and Dr. Key, two of the most experienced accoucheurs I have known, informed me that they did not believe that the age of the milk made any essential difference. However, there is a feeling upon this subject on the part of the mother, which may be indulged, as she and the nurse are better satisfied, if the children be nearly of the same age; and Dr. Merriman thinks that the child of the wet nurse should be about two months older than the new-born child." 135.

A child may be deprived of its mother's milk, and pine for her breast, and if returned to it after several weeks, the secretion of the gland will return, and the child be supported by it.

Sir Astley is a decided advocate for a woman's suckling, for, independently of the moral considerations which should weigh with all properly constituted minds, and of some medical arguments which cannot but be familiar to us, he urges the following strong one:—Suckling also diminishes the disposition to malignant diseases of the breast, for although women who have had children are still liable to cancerous and fungoid diseases, yet it is undoubtedly true that breasts which have been unemployed in suckling, in women who have been married, but are childless, and in those who have remained single, are more prone to malignant diseases that those of women who have nursed large families; and if it were only to lessen the probability of the occurrence of such horrible complaints and causes of dissolution, women ought not to refuse to suckle their offspring.

A woman who has children and suckles them, is undoubtedly a better insurable life than a married woman who has no children, or one who has remained single.

Sir Astley, also, dwells on the advantages to the child of sucking the maternal breast. Dr. Merriman informed him that he tried to ascertain the average mortality of children brought up by hand, but found it difficult for want of accurate data. The result was a conviction, taking the whole population of rich, the poor, and the middle classes, that not more than two in ten children so nourished, survived eighteen or twenty months, and the mortality of the children of those who go out as wet nurses is frightful.

Food of the Mother or Nurse.—This is an important point, and we quote freely from Sir Astley, in reference to it.

> "It appears," he says, "that the quantity and quality of the food taken by mothers and nurses, is often greater than is absolutely necessary; indeed, absurdly and unnecessarily abundant. A mother who reared ten very healthy children and never failed in her milk, adopted the following plan of diet:—
>
> Her breakfast was café au lait with bread and butter. At one o'clock P.M., she took hot meat, and drank half a pint of porter. At six o'clock, she dined plainly upon meat, but drank half a pint of porter and two glasses of port wine. At ten o'clock P.M., she took a slight supper of meat and drank half a pint of porter. She suckled early in the morning, frequently in the day, and the last thing at night. During the night, the child was fed upon barley-jelly, gruel, flour and milk, milk and arrow-root if the bowels were relaxed. Her general food for the child was flour tied in a cloth boiled in water, dried and grated into milk with sugar.
>
> It appears, however, that this diet for the mother is unnecessarily abundant and stimulating.
>
> The Welsh women live, whilst they suckle their children, upon barley-bread, oat-cake, cheese, and oatmeal, and bacon, with leeks, and other vegetables boiled together, into what they call cowl. No beer nor wine, but milk and water, or butter-milk, are their drinks. The woman is often moving about her house in the fourth or fifth day after parturition. They are affectionate mothers, and their infants are generally very healthy.
>
> In Ireland, Dr. Woodroffe of Cork informed me, in reply to some questions I put to him:—

QUESTIONS.	ANSWERS.
What is the diet of the *poor* women in Ireland, whilst they are *suckling?*	Potatoes, milk, stirabout, and occasionally a little fish.
What work are they called upon to do whilst they are nurses?	They work in their fields and gardens, and are engaged in their domestic concerns.
How long do they generally *suckle,* and do you know of any individual cases of the child continuing to be suckled for a long period?	Never less than *twelve,* but more generally for *sixteen* or *eighteen* months. I have known many instances of children being suckled for *two* years, much to the detriment both of mother and child. Amongst the lower classes, there is a strong prejudice in favour of weaning the child on particular days; and to accomplish this object, they often continue to nurse their child *five or six months* longer than they otherwise would:
Do they carry the child with them whilst at work, or do they go home to suckle?	The child is left at home; women do not go far from their own dwellings, but work in the adjoining fields and gardens.

In Scotland and in the north of England, where the women work hard, in a few days after parturition they occupy themselves with the business of the house, and even very soon go out into the fields to work. The child is also carried out by another child, and is placed under a hedge or wall, and if the mother hears the child cry, she suckles it, or does so, from her belief of its wants. The food of the mother is ground oatmeal and milk, flour and milk, potatoes sliced and fried in fat." 142.

We believe, with Sir Astley, that nurses often eat and drink too much. Appetite suggests, habit continues the practice, and the constitution is frequently damaged by the repletion or intemperance that nursing generated. At the same time, there can be no doubt that lactation is debilitating, and that support is to some extent necessary. The amount must be determined by the constitution, the previous mode of living, &c. of the nurse.

It sometimes happens that the sexual secretion continues during lactation, and women have assured Sir A, that they and their children have been healthy. A woman who suckled sixteen months had the menstrual secretion during the last seven, yet her milk was abundant and the child healthy. These, however, must be considered as exceptions to general rules, for usually, if menstruation occurs during lactation, such a change is produced in the child's health and bowels, that a medical man is led to ask if the secretion has not returned; the woman also suffers from the great call upon her constitution which this double secretion produces, from the difficulty of supporting both at the same time.

Sir Astley speaks fully, and his observations are both curious and important on the influence of mental and moral emotions on the milk. The depressing passions vitiate, or diminish, nay arrest it. The following are strong instances of the effects of fright. A nurse was hired, and in the morning she had abundance of milk, but having to go fifty miles to the place at which the parents of the child resided, in a common diligence, the horses proved restive and the passengers were in much danger. When the nurse, who had been greatly terrified, arrived at her place at the end of the journey, the milk had entirely disappeared, and the secretion could not be reproduced, although she was stimulated by spirits, medicine, and by the best local applications a medical man could suggest. A lady in excellent health, and a good nurse, was overturned in her pony chaise, and when she returned home, pale, and greatly alarmed, she had no milk, nor did it return, and she was obliged to wean her child.

Influence of Medicines on the Milk.—That medicines will act through the milk on the child is, of course, well known. Mercury does so—purgatives do so. The medicines which affect the child the least, are olive oil, castor oil, confectio sennæ, and extractum colocynthidis compositum. The saline purges are apt to influence the child's bowels, or, as the nurses express it, to go to the milk.

"Iodine has been found in the milk by many persons. Dr. Rees writes:—'A woman in Guy's Hospital had been taking iodine for a fortnight three times per diem, with five grains of hydriodate of potash; her milk was tested with sulphuric acid and starch, and the strongest indications of iodine were obtained.'

From the researches of Chevallier, Henry, and Peligot, on the milk of asses, to whom various medicines were administered, it appears that distinct traces of many remedial agents were readily detected in the lacteal secretion. Of these,—

Common salt was detected in abundance.

Sesqui-carbonate of soda passed in great quantity into the milk, rendering it alkaline.

Traces of sulphate of soda, when administed in doses of about two ounces, were readily detected.

Sulphate of quinine, although administered in large doses, did not appear to pass into the milk.

Iodide of potassium was readily detected, when administered in doses of a drachm and a half.

Oxide of zinc, tris-nitrate of bismuth, and sesqui-oxide of iron, were readily detected in the milk, when these substances were administered to the animal; but no traces of alkaline sulphurets, salts of mercury, or nitrate of potass, could be detected even after the ingestion of these drugs in considerable doses." 149.

We have exhausted the space allotted to this account of the human breast, and have only to add, that the remainder of the work is taken up with a notice of the changes which the mamma undergoes in age—a description of the gland in the male—and a brief sketch of its comparative anatomy.

It is quite unnecessary for us to eulogise the volume. It bears in every page the impress of the care that has been expended on its execution, and is one of which the profession in this country should be proud. The plates are admirable. We cannot conclude without wishing Sir Astley Cooper many coming years of health, and usefulness, and dignity.

A TREATISE ON THE DISEASES OF INFANTS, FOUNDED ON RECENT CLINICAL OBSERVATIONS AND INVESTIGATIONS IN PATHOLOGICAL ANATOMY; WITH A DISSERTATION ON THE VIABILITY OF THE CHILD. By *C. M. Billard*, D.M.P. Translated from the Third French Edition, with an Appendix, by *Jas. Stewart*, M.D. (New York.) Churchill, London, 1839. Pp. 620.

THIS American translation of Dr. Billard's elaborate work, will supply a want felt to exist in our medical literature. It is true, we possess a mass of valuable practical information—the result of accumulated and careful clinical observation—which enables us to treat the diseases of children with a degree of success unknown formerly, and unsurpassed by the practitioners of other countries. But, owing to our very limited means of investigating the nature of these affections after death, many of our opinions rest upon very unsatisfactory and unscientific bases. Dr. Billard has enjoyed opportunities of pursuing pathological investigations to an almost unlimited extent, at the Hospice des Enfans Trouvés of Paris; and he has very diligently availed himself of them,—presenting to the world, as the result, a book remarkable for the variety and importance of the facts it contains. His attention has not been confined solely to the diseases of young infants; but he has succeeded, by means of his numerous observations upon the normal and abnormal state of their various organs, in establishing, upon a firm basis, many points in physiology and medical jurisprudence, concerning which the most vague opinions had heretofore prevailed.

When we mention also, that the book contains nearly 100 cases of diseases occurring in very young infants; (our annals of similar cases, carefully recorded, being very scanty,) and, that it may be considered, almost as a complete manual of information, respecting congenital disease and malformation, our readers will allow that it is no common work; and that it justifies our devoting a considerable space to its consideration.

But, while we rejoice that Dr. Billard has thus diligently availed himself of the opportunities presented to him, do we regret, that such do not exist in our own country? Indeed, no! Much as we may, in other respects, be disposed to envy our continental brethren, their superior means of carrying on anatomical and pathological enquiries, we do not do so in the present case. The French system of Foundling Hospitals, not only produces a lax morality, by offering every facility to the reckless incurring, and heartless abandonment of maternal responsibility—to the severing of those ties between mother and child, which the very brute creation teaches us to respect; but also, by the congregation of young children, which it renders unavoidable, becomes itself a frightful source for the generation of infantile disease and mortality.*

---

* In the progress of his work, Dr. Billard frequently explains the severity and mortality of various diseases by the vitiation of the air, consequent on these large assemblages of children, and the deficient and improper nourishment to which they are more or less subjected. M. Benoiston de Chateauneuf states

We will now proceed to the analysis of the work; presenting to the reader all points which are novel, or likely to be interesting.

PART I. OF THE PHENOMENA WHICH ARE PRESENTED UPON EXAMINING EXTERNALLY THE CONDITION OF THE CHILD.

1. *Attitudes of the Child.*

This is but a meagre chapter, and we only notice it for the sake of an useful caution, as to holding infants in the erect posture too soon; a practice too frequently followed.

> "At six weeks or two months, the infant scarcely begins to have power to support its head, but is constantly to be seen moving it about in a very irregular manner; it appears too heavy for the muscles of the neck to support its movement.
>
> We are of opinion, that the infant ought to be kept in the horizontal position, or carried on a pillow, when it is perceived that it has not as yet sufficient muscular strength to maintain the head in an erect position: in about two months, it will begin to have power sufficient for that purpose. To this rule, however, there are many exceptions, attributable to the strength or weakness of different individuals. The vertebral column becoming more and more solid, the trunk sustains itself better, and at the age of four or five months, we see the infant support itself in sitting." 11.

2. *Colour of the Skin.*

> "When the finger is applied to the skin of an infant, the red colour disappears at this point, and it becomes yellowish; afterwards the blood returns by degrees in the capillaries from which the pressure had removed it, and the yellow tint is replaced by the previous red. It will often be observed, after the red colour has disappeared, and before it becomes altogether white, that the skin will exhibit a universal tint of yellow, and sometimes of a copper colour. This is thought, by physicians generally, to indicate an affection of the liver. The result of our observations on this subject, however, will justify us in controverting this opinion."
>
> "About the end of the third month, the distinctive colour becomes established, and we can, from that time, distinguish dark-complexioned children from those that are fair; at a much more tender age the hair has already assumed its proper hue; but it is not until the period of which we are speaking, that the skin on the body becomes dark or light coloured, the face either pale or ruddy, and the traits peculiar to each constitution delineated." 13, 14.

3. *Separation of the Umbilical Cord.*

(*a.*) *The Desiccation.*—This process commences at the distal end of the

---

(Annales d'Hygiène, tom. 21,) that, between the years 1824 and 1833 were received into the French Foundling Hospitals 336,000 infants, making, when added to those already there in 1824, (116,000,) in all 452,000. During these ten years, there died in the hospitals 46,755, and at nurse 151,750; in all 198,505. He states also, the number received in 1837 to be 127,000, and calculates their expenses at eleven million francs.

Here is indeed a wide field for pathological research!

cord, usually on the first or second day, and is completed on the third, although these periods are sometimes later. It consists in a drying up of the gelatine of Wharton, which then compresses the vessels; these become flat and tortuous, and are seen as small, black filaments, winding in the midst of a semi-transparent substance.

This desiccation, apparently a mechanical, is actually a vital process, since, in the still-born child, instead of the cord drying and separating in a few days, it undergoes an entirely different process, viz. a perfect decomposition. "When the cord is left to putrefy upon the dead body, it first assumes a greenish white colour; then becomes corrugated at its extremity, and shrinks. Its pellicle is easily detached, but the cord will not separate from the abdomen at its point of insertion, as is observed to be the case during life. I have never seen the cord of a still-born child become dry before the fifth or sixth day, and have also observed, that it preserves its circular form and suppleness for some days." From this fact arises the importance of noting the desiccation of the cord in reference to legal medicine. His conclusions are:—" 1. The desiccation of the cord cannot take place except during life. 2. At the period of death the desiccation is suspended, or considerably retarded. 3. If the cord be fresh, or the shrinking but just commenced, the infant may have been still-born, or have lived but a very short time. 4. If the cord has already exhibited the beginning of desiccation, or is completely dry, the infant has lived at least one day; the more recent the death of the fœtus, the greater is the dependence upon these conclusions." Dr. Stewart remarks judiciously upon the above observations, that, though in the majority of cases they are applicable, yet, that in medico-legal investigations, they should be considered as only corroborative testimony.

(b.) The Separation.—Although, usually occurring at the fourth or fifth day, there are so many exceptions, that we cannot draw any useful conclusion upon the subject. The separation is not effected by the pressure of the skin, but by that produced by the indurated gelatine; and, in proportion as the cutaneous ring surrounds the insertion of the cord closely, there will be a degree of inflammatory action present after the separation, though Dr. Billard by no means agrees with many authors, who believe such *inflammation* to be the cause of the separation; he considering it as merely accidental. In 86 infants, he found inflammation present in 25, and absent in 61. Indeed, when inflammation and suppuration were present, the process of separation was always retarded; for the funes have then, generally, a broad attachment, and contain a larger quantity of gelatine; the desiccation of which, is a necessary preliminary to the separation. "We should not, therefore, attach much importance, as has been done by some distinguished writers on legal medicine, to the absence or presence of a red circle around the umbilicus, when we are examining the dead body of an infant to determine whether it died before, during, or after birth."

Dr. Stewart says, in the Appendix:—"We can scarcely coincide with the opinion, that the separation of the cord arises from mechanical causes: the appearances of inflammation are of still too frequent occurrence to attribute it to these causes."

(*c.*) *Cicatrization of the Umbilicus.*—Generally, when the ring is thin, and the cord slender, the cicatrization will occur about the ninth day; but when we meet with a very projecting umbilicus, as it corresponded probably with a thick cord, we may conclude the cicatrization was not completed until after that period.

(*d.*) *Hæmorrhage from the Cord.*—Dr. Stewart relates a case of fatal hæmorrhage, arising from an œdematous state of the cord, the ligatnre on which became loosened by the oozing of fluid. We may here notice a state of the funis we lately met with, viz. an inordinate thickness of that part, arising, not from œdema, but from the presence of a large quantity of gelatinous matter, of an infinitely less dense texture than ordinary; so that, even a tape ligature, when applied with the slightest pressure, cut through it like a knife. Had hæmorrhage existed, it could not have been restrained by any ligature; but, on examining the cut surface, the orifices of the vessels were scarcely visible.

4. *Exfoliation of the Epidermis.*

This, which differs in toto from the separation of the epidermis which results from putrefaction, he has never known occur prior to birth, or in premature children. The period of its occurrence, after birth, as observed in eighty-six children, was uncertain, although, from the third to the fifth day, was the time when it was generally at its height. Its duration, also, is very various, continuing in some cases for a month or two; and it is both of longer duration, and of a more marked character, where marasmus is present, owing to the dryness and flaccidity of skin this produces.

"There exists in *adults* an analogous phenomenon, where disease has produced a rapid emaciation. In the course of their convalescence, to use a popular phrase, they change their skin. It appears as if nutrition had been entirely suspended in those parts in which it naturally proceeded in a feeble manner, and that the epidermis being thus deprived of its portion of blood, had become withered and dead. The *cause* of the epidermic exfoliation in new-born children, is susceptible of a satisfactory explanation. The integuments of the infant are for about seven months immersed in a liquid which keeps them moist and supple. The epidermis, until the period of birth, is, as it were, soaking in the waters of the amnios. When exposed to the air, it becomes suddenly dried, and loses the suppleness peculiar to it during the intra-uterine existence. The epidermis is very soon *reproduced* in those parts which are most exposed to the air, but the folds of the skin, as in the arm-pits, the neck, or groin, or any other parts deprived of a direct contact with the air, secrete a fluid like that formed by mucous membranes. This is easily dried up, in assisting the formation of a new epidermis by the use of absorbing powders. This circumstance serves to prove that the epidermis is only a cutaneous secretion; a covering almost inorganic, being destroyed and re-established according as the cutaneous surfaces are exposed to the action of the air, or are kept from its direct influence." 34.

5. *The Cry of the Infant.*

Dr. Billard analyzes the cry into two parts; the cry *proper*, which is heard during expiration, sonorous and prolonged; and the *reprise*, more acute, less perceptible, and occurring during inspiration; "it is an interval, a sort of effort at renewal between the cry just finished, and that about being commenced." It is from modifications of these two parts, he draws his signs. When the reprise is silent, while the cry is distinct, the lungs are healthy, and quite permeable to air: the child does not then employ all its respiratory efforts, so that, the air traverses the glottis without noise, which is only produced when it passes in expiration. On the other hand, in cases where the cry is smothered, and the reprise alone heard distinctly, there is almost always pulmonary inflammation or engorgement. In twenty children examined, who possessed this modification of the cry, impediments to a free ingress of air were found in the lungs. He thinks, the reprise should be well observed, by those called upon to give an opinion upon the viability of a child. In *tone*, he says, the reprise becomes *acute*, in those affections, in which the renewal of respiration is especially urgent, as, affections of the tonsils, larynx, and trachea;—hence, the crowing in croup, in which the cry proper is replaced by a blowing sound. The *husky* tone attaches most to the cry proper, and is heard in affections of the bronchiæ and larynx. In three cases, in which the cry was faint, trembling, or jerking, like a *goat's*, he found œdema of the glottis. The *duration* of the two parts of the cry is various. When they follow each other rapidly, or when three or four cries precede one reprise, sudden and violent pain is usually denoted, as from a pin, burning the mouth, colic, &c. The interrupted cry exists in angina suffocativa. In conclusion, Dr. B. says—" The changes in the proper cry usually indicate an affection of the lungs and bronchiæ, whilst the changes in the reprise are ordinarily evidences of an affection of the trachea and larynx."

6. *Absence of Tears in Infants.*

" It is an important fact to notice here, that very young children never shed tears while they cry, or at least, it is of very rare occurrence. The secretion of the lachrymal gland is excited, as is well known, immediately and sympathetically by sorrow; but are children at the tender age of which we are speaking, under the influence of the mental emotions? Is this secretion produced by any other influence than the nervous excitability proceeding from some moral cause? And are physical distresses, which appear to be the only kind endured by a being whose brain cannot as yet combine ideas, and from which there appears to emanate no volition, capable of acting on this gland? These are questions which it is difficult to answer. The lachrymal gland at this period is perfectly developed, it receives arteries and nerves, and does not differ anatomically from other glands. Notwithstanding this, no tears flow while the child is crying; and while the simple recollection of a lost friend, dear to us, will fill the eyes with abundance of tears, yet, in the young infant, in spite of the reiterated cries from sleeplessness, sickness and pain, the lachrymal secretion remains undisturbed. This fact is a remarkable example of the particular influence of the nervous system on the functions of certain organs." 41.

7. *State of the Pulse in Children.*

In England, practitioners, in general, are accustomed to attach very little importance to the pulse, as a guide for the treatment of the diseases of very young children; it may be, that they attach too little; but certainly we are at a loss to understand, how Dr. Billard is enabled (he however acknowledges the difficulty) to distinguish the jerking, the thread-like, or the easily compressed pulse. His fingers must have acquired a nicety of touch denied to ordinary men; but, in order to assist those who may wish to attain a little tact, we transcribe his directions for feeling the pulse of young infants.

> "The physician ought, if possible, to avoid grasping and fixing the arm of the child with his hand, as continual motion will then be made to relieve it from the compression of the fingers: it is much better to permit the arm to remain free, and to apply the fore-finger in the track of the radial artery: it will not be discovered until after a little search: at the same time care should be taken that it be not strongly compressed, as it might thereby become flattened and its pulsation thereby rendered imperceptible. After having felt a few beats, the pressure of the finger ought to be gradually diminished until the artery is permitted to dilate to its full volume. I have remarked that it is much easier to find the artery by applying the index finger alone, than by placing the first three fingers on the track of the artery, as is recommended in adults. The finger can in the same manner be applied to the temporal artery." 55.

The common idea of the *frequency* of the young infant's pulse, his observations prove to be incorrect; for among forty children, between one and ten days old, he found, in about one half, the pulse was nearly as slow as in the adult; of thirty-five between one and two months, fifteen were in a similar predicament; but, of eighteen children between two and three months, all but three exceeded the adult pulse; which was also the case in the few he examined above one year. Hence, "it appears that the pulse of a very young infant is often not much more frequent than that of an adult, but that it increases in frequency in proportion as the child advances in age; whence it follows, that it is wrong to assert, in a manner so exclusive and general as is usually done, that the pulse in children is more frequent than in adults."*

PART II.—DISEASES OF INFANTS.

The extensive scope of the author's undertaking may be judged of by the following passage.

> "If it is our wish to investigate the affections of the different organs of children, it will be necessary to point out the principal congenital malformations, together with the alterations of texture which each organ undergoes during intra-uterine life. It is this which I now propose to do; and also to describe the symptoms by which, at the birth, a correct diagnosis of the various alterations may be made; and considering in their course those diseases which are developed after birth. The therapeutic agents necessary for their relief will conclude the history of each disease." 61.

---

* The observations of Dr. Naegele, in his work on Obstetric Auscultation, will still farther modify the general opinion upon this subject. After noticing the irregularities of the contractions of the fœtal heart, he continues "how strangely does the pulse of children vary during the first few years of their life! To-day it beats 80 in the minute; to-morrow, although there may be no perceptible difference in the state of the child, the pulse has risen to 160 or 180; it varies with extreme rapidity during tranquil sleep, as well as when the infant is awake. If the child move, or take food, or if it be under the influence of any mental impression, the pulse rises 30, 40, or 60 strokes in the minute; and this variableness while it would confound the inexperienced has taught those who are well acquainted with children's diseases, not to draw their conclusions from the state of the pulse."—*West's Translation*, 33.

1. *Diseases of the Skin.*

As the descriptions are almost all founded upon those of Willan and Rayer, and the treatment not different from that usually adopted, we shall not notice many of the affections treated of in this chapter. He classifies these diseases in an ingenious manner, in imitation of Lamarque's Botanical System; so that their various affinities and contrasts are displayed in parallel columns.

1. *Petechiæ.*—There is an interesting case of this affection, in a child three days old. The whole skin was unequally spotted, like a tiger's. The child died in two days. The alimentary canal was covered with petechial spots, and it contained a considerable quantity of effused blood; the spleen was large, gorged and ruptured; the heart large and congested, and its surface covered with petechiæ—bladder and kidneys ecchymosed—brain much congested—effusion of blood into the cellular tissue of trunk and limbs. In another case, of a child aged eight days, the petechiæ gradually faded away, and the child recovered. The author recommends, when the petechiæ are accompanied by symptoms of congestion, that a few leeches be applied to the arms; and that where this is not the case, we should leave the case to Nature.

2. *Congenital Eruptions.*—The author's observations are chiefly confined to congenital *small-pox;* he relates the history of the fœtus, covered with small-pox pustules, preserved in Sir Astley Cooper's Museum. Both the author and Dr. Stewart supply references to other cases, some of which we subjoin.*

3. *Syphilitic Eruptions.*—Dr. Billard justly observes, that it is too much the practice to set down various eruptions of young infants indiscriminately as syphilitic. He is perfectly right in saying, that various eruptions both congenital and occurring after birth, are thus erroneously termed: but yet many of them are really syphilitic; and we are much surprised, that this work (composed almost, as it were, in the wards of a hospital, the great bulk of whose inmates must be derived from the lowest classes of society,) contains little or rather no information upon the subject of syphilis: whether, as it manifests itself at, or shortly after, the birth of the infant infected in utero; or later, when the affection has been communicated by a diseased nurse.†

4. *Erysipelas in Infants.*—In the year 1826, thirty cases fell under the author's care; and of these 16 died, in all of whom marks of enteritis were found. In the treatment of the affection, Dr. B. seems to us to place too

---

* Dyckman's Pathology of the Human Fluids, New York, 1814; Francis' American Med. and Phil. Register, Vol. 4; Duncan's Medical Commentaries, Vol. 19, which contains many additional references; Memoirs Lond. Med. Society, Vol. 4; Phil. Trans. abridged, Vol. 3, p. 308; Boerhaave's Van Swieten.

† See Lawrence's Lectures in Lancet, Nos. 340 and 400.

little reliance upon aperients, and other general means, and too much upon local treatment. In the severe cases he recommends scarifications, and sometimes blisters; both of which means, it would seem to us to be rarely applicable to young infants. Dr. Stewart observes, that this disease is little known among young infants in America, and we may make the same remark for our own country: but the history of malignant forms of erysipelas, which have prevailed among adults in this country, will prevent us being at a loss to account for its generation in the wards of the French Foundling Hospitals. We were not aware, until informed by Dr. Stewart's note, that Messrs. Lawrence and Brodie recommend extensive incisions in the case of robust children; and although all who have seen such practice applied to adults in phlegmonous erysipelas, must admit its great utility, yet, rare indeed must be the cases in which it would be required, or permitted in young children. In like manner we dissent from the local application of the mercurial ointment, as recommended by Dr. Stewart.

5. *Rubeola* is a more common disease after, than prior to the first dentition; the anginose and cerebral complications are the most common at this early period, while those of the alimentary canal are of less importance. Anasarca or desquamation often follow. Speaking of *bleeding*, for the thoracic affections of measles, Dr. Stewart urges that it should be free and prompt, as the best preventive of the obstinate cough so likely to follow.* By neglect of this remedy a permanent hoarseness is often engendered, or even a foundation for phthisis laid. We copy the following judicious observations by Dr. Stewart, upon the use of *antimony* as a diaphoretic and expectorant.

> "As a general rule, ipecacuanha is to be preferred to antimony, in very young children: for the debilitating effects of the latter are sometimes truly alarming, and have been even fatal. Still great benefit is derived from the cautious use of very minute doses of this medicine, in high excitement occurring in robust children. A grain of tartar emetic in a half-pint of water, of which a teaspoonful may be given as a dose, will be the best means of ascertaining the effect of this medicine on an infant, and it may be increased or diminished, as the child is capable of bearing its action."† 553.

6. *Scarlatina* prevailing, as it generally does, in childhood, is hardly ever seen at the Hospice, among sucking infants; yet, Dr. Stewart states, that in the New York epidemic of 1837, out of 579 deaths, 125 were between one and two years, and 72 under one year. Dr. S. treats the subject in a long and able paper in the Appendix. In regard to the *complications*, he considers, that different parts of the mucous surfaces are more liable to attack at different periods of life; and that, in young infants, it is the *trachea* which is most seriously affected—asphyxia being sometimes imminent, from the immense secretions of viscid mucus which clog the air-passages; and also congest the brain by preventing a healthy circulation. Thus, at this age,

---

* "When the cough continues annoying, after the inflammatory symptoms are removed, it is best relieved by the acetate of morphia with syrup of squills."

† Drs. Merriman and Marshall Hall concur in reprehending its use. See their edition of Underwood.

there are much seldomer found marks of inflammation in the alimentary canal, while great ulcerations often exist in the fauces and trachea, especially where depletion has been neglected. The *treatment*, he thinks, is generally conducted with too little regard to the stage of the disease, and the peculiarities of the case: he is a strong advocate for early and judicious *depletion* in the cases in which inflammatory or congestive symptoms are present: and thinks, that, when performed early, it is the best preventive of the development of the malignant form of the disease. In regard to the *anasarca*, he agrees with Dr. Stark of Edinburgh, who attributes the origin of this complication invariably to cold, and describes his success in treating it by bleeding, or when the patient is very young by abundant leeching, as almost perfect. We believe the antiphlogistic treatment is now adopted by almost all practitioners; and we may refer our readers to a case (combined with convulsions) in which it was conducted with great success and vigour by Dr. Hall, under circumstances apparently very unfavourable.*

7. *Gangrene of New-born Children.*—This is especially observed in young infants in whom the circulatory and respiratory functions are imperfectly executed; thus producing a congested state of the extremities, which turn livid and soon mortify. This he considers to be different to the gangrenous erysipelas of Underwood—arising, as it does, not from excess of inflammatory action, but from the disturbed capillary circulation of an imperfectly oxygenated blood. In these cases he has also found the lungs, heart, and venous system gorged. He recommends us to endeavour to diminish the congestion by leeching the axillæ, and to promote the capillary circulation by friction. As the alimentary canal is sometimes in an irritable or inflamed state, he deprecates the use of cordials.

8. *Induration of the Cellular Tissue.*—Common as this disease is in France, the author devotes several pages to its discussion; its rarity in England calls upon us to condense considerably his observations. The name has been given to the disease from the resistance the parts affected (face or limbs) present to the touch. This does not arise from any process of solidification of the cellular tissue, but simply from the presence of œdema fully distending it; just as a bladder, quite full of air or water, becomes hard and incompressible. Of 5,392 admissions in 1826, 240 were thus affected. The disease occurs especially in Winter, and from the first to the eighth day after birth, while, with some, it would seem to have commenced prior to birth. In some cases, various parts were attacked in succession, while, in others, the whole body was implicated. The skin usually retains the red colour of infants, and the epidermic exfoliation has rarely commenced. The progress of the disease observed no fixed rule, and it frequently was accompanied by effusion into some internal organ. In 77 cases icterus was present, but this the author considers accidental. Out of 90 post-mortem examinations, the liver was found congested or otherwise affected in 20. Of 77 cases, the lungs were pathologically affected in 34. Of 77 cases, the foramen ovale was found closed in 48, and the ductus arteriosus in 28. Out of

---

* Lancet, 1839, No. 848.

77 cases, in 50 there were appearances of gastro-enterite. He reports these observations in order to disprove the various theories which have been formed to account for the affection, as its dependance on disease of the liver, lungs, or alimentary canal, or on an open foramen ovale; all of which he considers as unconnected, save by accident, with the affection of the cellular tissue. His own explanation of the *causes*, is contained in the following extract.

> "The predisposing causes are—1, the natural feebleness of the child; 2, a state of general and congenital plethora; 3, a superabundance of venous blood in the tissues; 4, a dry state of the skin before the exfoliation of the epidermis. The immediate causes are—1, an obstruction in the course of the blood, resulting from its quantity in the circulatory apparatus; 2, its engorgement in the cellular tissue, to which it furnishes too much material for secretion; 3, the action of external agents on the skin, which, without condensing the serous fluid, as has been asserted, are yet capable of suspending the cutaneous transpiration, and thus favour the accumulation of serosity in the cellular tissue." 153.

Upon this view of the origin of the disease, Dr. Billard confines his treatment to the relief of congestion, by local bleeding and frictions.

As to the *mortality*, he considers that it has been much exaggerated; and that death is often caused by some important internal disease, with which the affection may become accidentally connected. At the hospital, the deaths, independently of such lesions, were 50; while, when the disease is in its mild form, it is not to be regarded as a dangerous affection.

2. *Diseases of the Digestive Organs.*

1. *Muguet of the Mouth.*—Muguet, which is but an altered secretion of the buccal mucous membrane, must not be confounded with aphthæ. After a too great determination of blood to the parts, a viscid pellicular secretion replaces the ordinary lubricating fluid. It is seen, especially in very young infants: bad nutrition, debility, and the vitiated air of hospitals, seem predisposing causes. General symptoms are not very manifest, but phlegmonous affections, especially of the alimentary canal, are often present. Guersent considers a weak solution of chloride of soda, in a mucilaginous decoction, as the best application.

2. *Aphthæ* are produced by an inflammation of the muciparous follicles, which, invisible in the natural state, now become enlarged into small miliary tumors, which afterwards ulcerate, producing the characteristic white secretion. Sometimes the surface of the ulcers become covered with pellicles of exhaled blood, which, from the dark appearance it produces, causes them to be mistaken for gangrene. The predominance of the lymphatic temperament, is especially favourable to the production of this disease, which usually manifests itself about the period of dentition. The general symptoms, as usual with the diseases of young infants, are slight; but the child wastes away, and when the stomach and intestinal canal become affected—a common and often fatal complication—vomiting and purging occur. Ulceration of the buccal cavity may also occur independently of this affection of the follicles.

3. *Gangrene of the Mouth.*[*]—M. Billard thus explains the production of this frightful affection: the cellular structure in young infants (probably from the as yet imperfectly regulated circulatory apparatus, and from the superabundance of serum in the infant's blood) is very prone to become œdematous. This disposes them to the formation of indolent tumefactions, which always precede the production of the eschar; the compression hence resulting and not inflammatory action, causing the gangrene; and thus we find, in the tumefied and infiltrated walls of the mouth, that gangrene first occurs where most pressure exists; viz. opposite the horizontal part of the jaw, and the dental arch. The frequent disposition, in young infants, to gangrene of the vulva and of the extremities is also coincident with a similar disposition to œdema. Again, when gangrene occurs in older children, it will be found to do so especially after the cutaneous phlegmasiæ, which are so frequently followed by general infiltration of the cellular tissue. In the *treatment* of the affection the author recommends frictions during the stage of œdema; and the cauterising the eschar, when formed, with the butter of antimony or the actual cautery. Dr. Stewart says:—

> "The application, which has succeeded beyond all comparison, is the *sulphate of copper*, and the rapidity of the cure under its use is in some cases surprising. It is far preferable to the use of the actual cautery: it can be applied with the utmost facility to every portion of the diseased surface; care and attention are requisite to see that every part of the diseased part is brought under the influence of the application, as a failure might otherwise ensue. Simple ulcerations and small gangrenes quickly yield to the use of this means, and an amendment is evident from the first application. The solution should be made strong."[†] 570.

4. *Diseases arising from Dentition.*—Although some English practitioners may exaggerate the magnitude of the influence of this process upon the system of the child, and the benefit to be derived from lancing the gums, yet we think that Dr. Billard goes into the other extreme, by his deficient appreciation of the morbid effects of difficult dentition, and the relief to be obtained from the operation. Unquestionably, many symptoms and diseases are wrongfully attributed to the obstructions which may prevent easy dentition; but, surely, it is conformable to all analogy to suppose, that the existence of these in the susceptible frame of a young child, will frequently produce many morbid affections, and almost always complicate those already existing. His objections to rubbing the gums with hard substances, and to lancing them, are at best very fanciful; the first, in the early stages of dentition, evidently affords the child ease, and, from the increased flow of saliva it causes, benefit. Few will agree with him in reprehending it on the score of the existence of inflammatory action; for, although, at this period of life, it is true, that the gums and all neighbouring parts are freely supplied with blood, yet, is not the gum itself in a state of inflammation, nor is the process of teething in itself, at all analogous to an inflammatory process. As to the operation of *lancing* the gums, his objection to it, founded on the erroneous idea of pro-

---

[*] See Marshall Hall in Edinburgh Journal, Vol 15, and Lancet, No. 849.

[†] The following is the formula of Dr. Coates, whose paper in the N. Amer. Med. Journ. for 1826, is quoted by Dr. Stewart:—℞. Sulph. Cupri ʒij. Pulv. Cinchon. ʒiv. Aquæ ℥iv. bis die applicand.

ducing a hardened cicatrix, will have little weight with the practitioners of this country; few of whom pass many days without seeing ease, sleep, and improvement follow its performance too speedily and too frequently to be the work of chance. Another objection he makes, is, that disappointment frequently occurs, in consequence of the tooth not appearing shortly after the gum is lanced. We notice this, because we know that many practitioners decline lancing the gums when the teeth are not near the surface. But it is presisely in those cases, in which you have to cut down a great depth through the indurated gum and thickened capsule, before the lancet grates upon the tooth, that the most benefit is derived: the cases in which the tooth is seen almost projecting through the gum, seldom require any or but little interference. When we find the *gums spreading*, which may occur months prior to the cutting of the teeth, provided the child be suffering from symptoms of irritation, we may always be certain that they are in a state to permit and very often urgently to demand the operation. Prior to this, as long as the existence of the sharp ridge assures us that the process of propelling the teeth to the surface has not commenced, our interference would be improper. While writing this article we were called to see a child about three or four months old, whose only symptom was violent, heartrending screaming, unaccompanied with the disorder of any one function. On examining its mouth we found it had not slobbered; there was neither redness nor tenderness of the gums; but these were well *spread out*. Free incisions down to the teeth were made, and the child soon fell asleep, awaking lively and well, and so continuing for some days; when, a recurrence of the same symptoms were relieved by like means. To prevent disappointment, we should always explain to the parents our object, telling them, that, although the tooth may not appear, yet, the incision, by removing the tension and pressure, will often be productive of the greatest benefit. Dr. Billard does not consider separately the sympathetic affections resulting from dentition, referring to the parts of his work where these are described as idiopathic diseases. This, as a matter of arrangement, is right enough, yet, in treating these affections we must never overlook the state of the dentition; by paying attention to it, we may often at once relieve the most alarming secondary symptoms; while, if this point be neglected or inefficiently attended to, all the means usually effectually adopted for the relief of the disease when idiopathic, however skilfully employed, will often now be partially or entirely useless, or needlessly employed even if successful.

Dr. Billard relates two cases of *effusion of blood* into the substance of the gums, in children of two or three weeks old, which he considers to have been of a scorbutic nature.

5. *Congestion of the Organs of Deglutition.*—Of 200 children, between the ages of one and ten days, this existed in 190. The author alludes to it principally to caution against the mistaking it for inflammation, in very young children, and, as an interesting exposition of the nature of anginose affections in cutaneous diseases; for, although, in these cases, he found no relation between the congestion, and an inflamed state of the alimentary canal; yet he found a most intimate connexion between its degree and duration and that of the redness of the skin of young infants. It is to be distinguished from *inflammation* of the same parts, (of which he gives cases) by its disap-

pearance about the 10th day, its general diffusion, and the absence of any serious symptoms.

6. *Œsophagitis.*—A rare disease among adults, is much more frequent in infants, in whom it sometimes exists as an intra-uterine affection. He thinks it is often caused by the effect of too hot food on the congested œsophagus.

A very characteristic symptom is *vomiting* immediately after deglutition, before digestion has produced any change on the milk, and great emaciation attends the disease. Dr. Billard dwells upon the fact, that writers on the diseases of children have neglected to observe that inflammation and congestion of the œsophagus may be a cause of vomiting, independently of any affection of the stomach;—a fact, he believes, furnishing an interesting elucidation of the experiments of Magendie and Maingault on vomiting.

7. *Gastric Indigestion.*—This is chiefly denoted by vomiting the coagulated, undigested milk;—not vomiting from mere repletion, but from deficiency of digestive power. Frequently, there is much acidity present, although, it is very doubtful, how far the coagulation may result from the action of the acid on the too abundant caseum. In *treating* these cases, when but slight, we should do nothing; but, when they are severe, so as to produce emaciation, the author follows the directions of Rosen; viz. the limiting the child to very small portions of food at a time, and the exciting vomiting with an oiled feather, if any symptoms of repletion exist. If, from the too great abundance of caseum, the child cannot digest the milk, artificial feeding, by means of milk and water, whey, thin pap, and gelatinous substances must be tried. If any acidity be present, a few grains of magnesia may be suspended in sweetened water; but, ever alive to the possibility of the existence of inflammation, our author is excessively cautious in recommending even such an aperient as this. Nevertheless, we believe if he employed some one rather more freely, he would find many cases of infantile vomiting disappear under its use.

8. *Gastritis.*—Great *congestion*, even to the effusion of blood, and *inflammatory* action, to the disorganization of tissue, may occur in the infant's stomach, prior to birth. Indeed, this organ (like most others) is almost always congested at birth. In regard to the symptoms of this state, the author, after saying that the digestive organs become often deranged, thus proceeds:—

"But it is not simply in the digestive functions that we must look for the symptoms from which we are to infer the existence of congestion of the stomach; let us note that this is but secondary, that it is the effect of a cause which has existed before; and it is towards the seat of this cause that our attention is to be directed. Now, every time we see a child born with all the signs of sanguineous plethora, where we observe the respiration becoming established with difficulty, and the characters which we shall hereafter indicate as being those of pulmonary congestion, all united with sanguinolent vomiting; we shall then have reason to believe the existence of a passive congestion of the stomach; because experience has proved that this lesion is, in infants, as in adults, the result of a disturbance of the circulatory apparatus. The treatment, in such cases, ought to be based upon the necessity of restoring the blood to its habitual channels, of relieving the tissue of the organs from the superabundance of this fluid; and above all, to direct our remedies to the congestion of the heart and lungs. Sanguineous evacuations are the proper means for accelerating the subcutaneous capillary circulation." 249.

Gastritis, properly so called, varies according to its seat and effects.

(*a.*) The simplest state is *erythematic*, which, however, is to be distinguished from mere congestion, both by the different distribution of the blood, and by the accompanying tumefaction and friability of the mucous membrane.

(*b.*) Gastritis with altered secretion, or *muguet* of the stomach, is much rarer than the same affection of the mouth and œsophagus. We should suspect its existence when the symptoms of gastritis supervene upon muguet of the mouth.

(*c.*) *Follicular or Aphthous Gastritis.*—The follicles "sometimes appear under the form of small, white, round, slightly projecting granulations, terminating in a black point, which marks their excretory orifices; sometimes they inflame, tumefy considerably, and finally ulcerating become disorganized. In the former case they give rise to but few symptoms; in the latter, they are accompanied by the symptoms of intense gastritis."

(*d.*) Gastritis with *disorganization;* this may be manifested, either by ulceration, gangrene, (which is very rare in infants) or gelatinous softening.

Gelatinous Softening.—Of this disease, first observed by Cruveilhier, Dr. Billard says:—

"In the three instances reported in this work, and in four others in my possession, I have always remarked the afflux of serous fluids towards the stomach: we have reason to conclude it always preceded the softening, and that it essentially concurred in giving the jelly-like appearance presented by the macerated and softened mucous membrane, this serum being mixed with the blood drawn thither by the inflammatory stimulus. If our conjecture be well-founded, the softening ought always to occur towards the most dependent part of the organ, for it is in that part the fluids generally accumulate; and experience proves that it is at the great tuberosity of the stomach that this disorganization occurs. This is what I have observed in the history of the seven cases of gelatinous softening in my possession, and M. Baron informs me his experience has always confirmed this remark." 266.

The parts of the mucous membrane affected are more or less circumscribed; and sometimes death is sudden from perforation. Dr. B. has met with the disease in very young children, prior to the period of the first dentition, mentioned by Cruveilhier. Following the ordinary symptoms of gastritis, there are great prostration, wasting, and restlessness.

The author directs attention to the fact, that gastritis is often *latent*, or masked by other diseases; presenting, thus, in its progress, no marked symptoms prior to a fatal termination; but he recommends that our suspicions should always be aroused, when we perceive great emaciation, accompanied by disordered digestion.

Treatment of Gastritis.—Dr. Billard recommends abstinence from the breast, and the support of the child by injections of gruel and milk. Without agreeing with him as to the propriety of this last practice, we may notice here, a point in his treatment of children's complaints, which practitioners in this country would do well to attend to. It is, that he insists, in all diseases of an inflammatory tendency, the child should be made abstain, more or less, from its usual supply of milk, or that this should be diluted. In this country, this point is very much overlooked, and too often, the infant is permitted, or indeed encouraged, to suck as much as it can.

The author has little confidence in the good to be derived from leeches, and only orders two or three when the symptoms are very urgent. He cautions against the use of tonics or stimuli, in the state of prostration, as it often depends upon an inflammatory disorganization.

9. *State and Functions of Intestinal Canal prior to Birth.*—Dr. Billard supposes the liquor amnii to contribute to the nourishment of the fœtus, by means of a true intra-uterine digestive process, whereof the *meconium* is the fæcal result. The digestive apparatus of a new-born infant presents the same appearance as that of an adult, who has died during digestion: the duodenum and jejunum are of a rosy hue, the villi developed, and sometimes the follicles prominent. Shortly after birth, the mucous membrane loses its florid colour, and becomes of a milky flocculent appearance, secreting an abundant mucosity. The internal surface of the intestinal canal of the new-born child, is lined with a tough layer of mucus, forming, as it were, a species of plastering. It detaches itself, shortly after birth, by a species of exfoliation, forming the little flocculi so often seen in the stools of infants, and sometimes coloured by the bile. He thinks this layer is the *saburra* of new-born children, of some authors.

10. *Imperforate Anus.*—The author relates two cases, and Dr. Stewart one. In the first, the imperforation was seated at the depth of an inch: an incision was made, which seemed to remove the obstacle, but no meconium followed, and the child died. On examination, it was found that the incision had penetrated the cul-de-sac, but a clot of recently effused blood obstructed the orifice thus made. In the second case, complete relief immediately followed; but the child died of gastro-enteritis following the operation. In Dr. Stewart's case, the orifice of the anus existed, and the occlusion was situated three-quarters of an inch above it. The operation was performed with a trocar, the meconium followed, and the child did very well. The greatest danger lies in cases of this kind; for, owing to the existence of the anal orifice, the imperforation is often long unsuspected.

11. *Intestinal Congestion and Hæmorrhage at Birth.*—" I have examined with much care, twenty-five cases of passive congestion of the intestinal tube, without hæmorrhage, in children who have died a few hours or days after birth, fifteen of them exhibiting all the signs of apoplexy—the symptoms relating to the digestive apparatus were nothing; those only were observed which related to the state of congestion of the lungs and heart; and the intestinal congestion, which was an effect of that of the respiratory apparatus, was not ascertained until the opening of the body. Although this remark may appear of a negative character, still it is worthy of attention, for we ought to conclude from it, that whenever a child is born apoplectic, the digestive apparatus will also partake of the con-

gestion of the circulatory organs, and both ought to be the objects of our attention. I have examined fifteen cases of passive hæmorrhage—most of them were remarkable for the plethoric condition of their bodies, and the general congestion of their integuments. Some on the contrary, were pale and feeble, as is common after abundant hæmorrhage. In all, the large abdominal vessels, the liver, spleen, lungs and heart were engorged: in nine, the fœtal openings were obliterated—in the rest open. In all, the meninges of the brain and spinal-marrow were injected; in all the intestinal tube contained more or less red blood." 285-6.

In treating these cases, he recommends one or two leeches to the anus, and strongly advises, when the child is asphyxiated, the letting the funis bleed.

12. *Intestinal Indigestion—White Softening.*—Many children die of diarrhœa, entirely unaccompanied by inflammation—literally perishing, from the inability of the intestinal canal to perform its digestive functions. There is emaciation, a decoloration or blanching of the integuments, as in chlorotic females; the discharges are white, mucous, and excessively fluid. After death, the appearances are, a decoloration or blanching of the mucous membrane, in the first stage; and a softening of it in the next. The disease almost always arises from defective nutrition, in consequence of the improper suckling or feeding, to which the child has been subjected. As to its *remedy*, Dr. Billard lays great stress upon the due apportioning the milk, or other aliment, to the digestive powers of the child. He quotes several analyses of the milk of different women, to show that it differed in each of these, as to the quantity of solid and nutritious matter it contained; while that of the goat differs also from the woman's, chiefly by its alkaline nature, and by containing half the quantity of caseum. He relates a case of an infant who fell ill while copiously supplied with milk of too nutritious a quality, but who throve well when supplied with a poorer aliment. This is a point perhaps we do not attend to sufficiently: all acknowledge the ill effects of milk which is too poor upon an infant; but, the possibility of its being too nutritious has been overlooked. "I have often seen, at the Hospice, goat's milk diluted with barley water, perfectly digested by those children who rejected the milk of their nurses, and who had wasted from defects of alimentation." When the disease has gone on to the extent of softening it is incurable.

13. *Colic of Infants.*—Dr. Billard considers an exaltation of sensibility, producing colic independently of inflammatory action, very rare; and hence, he is most cautious in using antispasmodics. Dr. Stewart's views are more just: he says, that, where colic originates in cold and damp feet, &c.,* an encreased action has been determined on the mucous membrane, bordering upon inflammation; but, that it frequently arises from undigested food, &c. and may be quite unconnected with inflammation, and accompanied with much flatulence. Hence, in treating it, the due regulation of the diet, is

---

* Dr. M. Hall particularly alludes to the frequent production of colic in infants, by coldness of the extremities; and its disappearing upon warming them with the hand.—*Underwood, 9th Ed.*

of primary importance, while an occasional emetic is required for the removal of the undigested matters. As acidity is often present, an antacid laxative may be combined with the antispasmodic. An injection of catnip or camomiles will often at once relieve a paroxysm. Fomentations and frictions of the bowels while the feet are kept in warm water, will relieve the congested state of the mucous membrane.

14. *Spasm of the Intestines, producing General Convulsions.*—" The intestines after birth sometimes become extremely irritable, and are affected with spasms, in consequence of which the digestive functions are completely disturbed; sometimes also general convulsions or spasmodic movements of the face and limbs occur. It is often impossible to understand the cause of these convulsions, which frequently cease and re-appear with greater intensity at a period more or less remote from the appearance of the first symptoms. I have seen infants seized with these nervous colics while sucking; they quitted the breast abruptly, cried suddenly and violently; the abdomen swelled immediately, and their agitation did not cease until a quantity of gas had escaped by the anus." 320.

Dr. Billard quotes a paper by Dr. Parrish of Philadelphia,* with approbation. Dr. Parrish supposes the affection to be seated in the muscular fibres of the intestines, and particularly remarks the relief attendant upon the expulsion of the gazeous fluids which distend the abdomen. In one fatal case, he found great part of the intestines irregularly contracted; the bowels being in some places no thicker than a quill, while in others, the canal seemed as if it had been tied with a ligature. This spasm of the intestines, Dr. Billard considers as originating in irritation of the cerebro-spinal apparatus; and that it should be treated by leeches applied to the mastoid process, or by bleeding from the arm or foot. Dr. Parrish recommends stimulating frictions to the spine, the administration of assafœtida and laudanum, and the lancing the gums, when near the period of dentition; (to which formidable operation, Dr. B. enters his caveat). The removal of the constipation, and the expulsion of the gas should be facilitated; and Dr. Parrish has effected this last, by the introduction of an empty syringe into the rectum.

15. *Enteritis, Congenital.*—" I have observed ten cases in infants that have died on the first or second day after birth. In three, there was an evident inflammation of the follicular plexus of the ileo-cæcal region. In others, there existed a number of white follicles, slightly projecting, in the cæcum, surrounded by a red circle; ulceration had commenced on the summits of some of these follicles. In five others, the inflammation only consisted in red patches, with tumefaction and friability of the mucous membrane. The meconium was unaltered. The children were usually pale and thin." 299.

2. *After-birth.*—Dr. Billard arranges the varieties of enteritis, as he did those of gastritis. We will not follow him in detail, but in his description of follicular inflammation, there occur some observations, respecting the *non-inflammatory development of the intestinal follicles during dentition,* that we think well worthy of notice.

" The changes in the muciparous follicles of the intestinal tube are not all of an inflammatory character. They experience, for example, at the period of dentition, an encrease of vital energy, which augments their secretion considerably, and renders their size larger, and their number greater, but which still does not produce any redness, &c. as is observed in inflammation. Of twelve children, in whom this state of the follicles was observed, diarrhœa existed in ten. This is the *serous diarrhœa* of authors; and every symptom leads to the belief that there is a direct relation between the development of these follicles, and the augmentation of their secretion. Most of these children had arrived at the period of dentition, so that there appeared a remarkable coincidence between the period of the appearance of the teeth and that of the organic development of the follicular apparatus. A physiological explanation may be given of this coincidence. In fact the follicular apparatus seems destined to second the action of the intestines in digestion, by furnishing the surface of these organs with a fluid, which, in all probability, assists in the elaboration of the aliment. Dogs, and other carnivorous animals, where the digestive power, if I may use the expression, is truly remarkable, possess this apparatus in a high degree of development. We ought not to be surprised to find the follicles, or the muciparous plexuses augment in volume and activity at the period of dentition in man, since the organs of digestion then receive a modification which renders them fit to fulfil their functions. At the same time the salivary glands acquire a much larger size, and secrete saliva in greater abundance." 305.

---

* North American Med. Journ. 1827.

This explains the occurrence of diarrhœa during the period of dentition; it should be treated by a strict regimen, for, although this development of the follicles be not inflammatory, yet is it a state of excitement more or less allied to it. These follicles are, however, sometimes found very large even at birth; and in other cases, become the seats of true inflammation.

Enteritis may terminate in softening of the mucous membrane; but this, the *inflammatory softening*, converting the membrane into a soft reddish mass, is, of course, very different to the *white softening*, resulting from improper diet.

Locality.—Of 80 cases of enteritis, in 30 there was inflammation in both large and small intestines; in 36, of the small alone; and in 14, of the large alone, while the co-existence of gastritis was very common.

The *Symptoms* are almost always local, and it is remarkable, that the severest, nay, mortal diseases of these organs may occur in young infants, without any general symptoms. Vomiting, diarrhœa, with dark and green stools, tympanitis and tenderness, are almost always constant symptoms, which are often accompanied by a dry tongue, and erythema about the anus. Marasmus follows, while the countenance looks aged, and puts on a characteristic, and easily recognized appearance, called the "face grippée." There is especially in all these cases a wrinkling of the skin at the forehead and root of the nose.

The *Treatment* consists in applying one or two leeches to the anus,—abstinence from the breast, and the use of demulcents. If the child is in much pain, and the diarrhœa very profuse, an enema of starch with five drops of laudanum may be given; but this latter means must be most cautiously employed; for, Dr. Billard has often seen infants, from eight to twelve days old, narcotized by six drops of laudanum, administered by the rectum. Cataplasms to the belly, and warm baths are very useful.*

---

* Dr. Christison mentions the case of a child, aged 14 months, who died narcotized by a dose of three drops of laudanum given in a chalk mixture for

16. *Cholera Infantum.*—Of this disease, which commits such terrible ravages among the infants of America, Dr. Billard professes personally to know nothing; yet, from the perusal of the works of the American physicians upon the subject, he arrives without any difficulty, at the conclusion, that the disease is merely severe gastro-enteritis, complicated with hæmorrhage; and criticises severely the stimulating treatment adopted by Dewees and others. This is neither wise nor liberal. The American physicians having in vain combated this disease upon general principles, find themselves reduced to the treatment of symptoms, and the following out of empirical practice; and, if after a due trial, they have found this succeed better in their hands, than that which would seem to be suggested by the post mortem appearances, is it not their duty to adopt it? Our limited space, and the non-existence of the disease in this country, prevent our pursuing Dr. Stewart's able paper upon the subject. Suffice it to say, that all authors agree that, in order that this scourge of the infant population be produced, there must be co-existent a high atmospheric temperature, vitiated air, and the period of dentition; Dr. S. considers the congested state of the liver as the primary cause, this, preventing a due circulation, causes also congestion in the follicles of the intestinal canal, as is seen in post-mortem examinations: —these follicles, as shewn by Billard, being in a very excitable state at the period of dentition, when alone this disease occurs. Thus he recommends local bleeding, and the inducing the due action of the liver by small doses of calomel; as all danger is found to be at an end, when the secretion from that organ becomes natural.

17. *Congestion of the Liver.*—The liver, which is large in the young infant, is frequently very much congested at birth, so that, sometimes, its convex surface is found covered by a layer of effused blood. This is especially the case, in the asphyxia of new-born children. In some of these cases, the *bile* is found of a black, green, or even bloody colour.

18. *Bilious Diarrhœa.*—The author enters into a minute analysis of post-mortem examinations, in order to ascertain whether a changed condition of the bile be an indication of the various pathological conditions of the liver, and he concludes, that, not only are the same morbid states of that organ attended with very different appearances of the bile; but also, that the bile secreted by the healthy liver will equally vary in appearance. He next investigates how far certain forms of diarrhœa are connected with changes in the biliary secretions. Here is his opinion:

"Thus it appears that in the 48 children to whom I directed my attention, affected with diarrhœa of yellow and green matters, (and dying of gastro-enteritis,) the liver and biliary secretion exhibited very different appearances; sometimes it was healthy, often injected, and again it presented certain anatomical characters which the state of our knowledge does not permit us to refer to any class of well-ascertained diseases. What inference is to be drawn from these facts? and what theory is to be established on so uncertain a foundation? Ought we, after the example of most of the English pathologists, to attribute

---

diarrhœa; and another of a child a few weeks old who was poisoned by four drops.

gratuitously to the liver the derangement of the digestive functions? Ought these yellow and green evacuations to be regarded as an alteration of the biliary secretion? I leave it to other authors to answer these questions, when ulterior researches shall throw more light on this subject; as for myself, I will renounce my opinions only when convinced of their error,—still believing that the yellow and green dejections, whatever may be the cause of their colour, are more probably a symptom of enteritis, an affection which must be removed before the diarrhœa which is only an effect can be cured." 338.

Dr. B. is therefore quite at issue with most English practitioners; as he doubts the effect of heat in disordering the functions of the liver; he disbelieves in a diarrhœa thus originating, and denies the effect of the bile in changing the colour of the intestinal secretions. We shall not follow Dr. Stewart's long exposure of the fallacy of his reasonings. Surely our various writers on the diseases of tropical climates have amply decided the following question of the author—"Why not attempt to show by anatomical researches, that the liver, under the influence of heat, is irritated, and ceases to discharge its natural functions?"

Of course the author, explaining bilious diarrhœa as always arising from a gastro-enteritis, is horror-struck at the idea of relieving it by small and repeated doses of calomel, as recommended by Dewees and Stewart. Yet is the principle of the practice recommended sound;—preceding this medicine by a mild aperient; always being on the alert for the possibility of inflammatory complications arising; and postponing the use of astringents, until the natural colour of the discharges is restored.

19. *Jaundice of Infants.*—The following are the conclusions Dr. B. arrives at:

"1. Jaundice, being sometimes local, cannot arise from a general cause, which would extend its morbid influence over every part of the body, as diseases of the liver, for example, to which it has been usual to attribute it: and Lobstein has remarked also that, the medulla spinalis is sometimes coloured yellow, at a period anterior to the secretion of bile. 2. The liver and bile are found in cases of jaundice to be in very various conditions, and it would be difficult to explain what would be the pathological state of this organ, or of its secretion, to produce the disease in question.* 3. Notwithstanding the sanguineous congestion of the liver and integuments co-existing with jaundice in the greatest number of instances, it is probable that the retention of this fluid in the organs, and the deposition of serum, which is almost always yellow, is the cause of jaundice." 509.

He has observed this yellow colour in the brain, spinal marrow, and tissue of the lungs, when serous; also the heart and pericardium of a deep saffron colour; while, shining, yellow striæ are sometimes spread through the substance of the kidney. He has found the muscles yellow, when the whole surrounding adipose structure has been white; and, on the contrary, yellowness of the adipose structure, while the skin, &c. has been colourless. The osseous system may be alone affected. He has observed the affection of the conjunctiva less often than in adults.

---

* We see neither difficulty or improbability in the explanation by Underwood, of cases of jaundice being caused by viscid obstructions of the biliary ducts, which yet may not, after death, always be manifest. With Dr. Billard, it seems a *sine qua non* that to refer the cause of any symptom to a certain state of an organ, you must be able, after death, to point out the lesion of that organ; which is often, of course, impossible. Seeing the ease with which jaundice in infants may be removed by a mild mercurial, we think his own explanation of it, by supposing it to arise from the colour of the serosity effused into the texture of the parts affected, is very untenable.

We must not confound with jaundice, the yellowness of skin of new-born infants, which seems a natural transition from the tegumentary congestion to the natural colour of the skin, as mentioned in another part of the present article.

20. *Peritonitis in Infants.*—This, Dr. Billard states, is much more common than is generally believed. It may not only be developed after birth, or about that period, but is often *congenital,* as manifested by the adhesions, &c. formed.* It has not been observed that children born of mothers affected with peritonitis, acquired it from them. When it occurs *after birth,*

> "The symptoms peculiar to peritonitis are, tension of the abdomen, which rises in a point towards the umbilicus, restlessness, pain indicated by a pinched face, and the increasing cries of the child, vomiting, eructation, constipation, and lastly, a general sinking and smallness of pulse." 356.

21. *Ascites in Infants.*—The author says it is not uncommon to find, in the abdomen of infants who have perished slowly from chronic phlegmasiæ, a few ounces of serum, without any accompanying peritonitis. In these cases, the children are pale and feeble, with œdematous extremities: and, after death, the digestive tube is usually colourless and softened, He refers to two cases of congenital dropsy, one in Roux's Journ. de Medicine, tom. 17, in which the dropsy of the child was accompanied by the retention of a large quantity of urine by the mother, necessitating puncture of the bladder during labour:—the other, reported by Dr. Ollivier, in tom. 8 of Arch. Gen. de Med. in which the fluid was contained in the cavity of the gastro-colic epiploon.

22. *Hernia.*—Upon this subject there is no new information presented; but an interesting case is related of *congenital inguinal hernia, formed by the ovarium.* The case was involved in great obscurity until the death of the child from pneumonia, when 26 days old.

> "The hernial tumor was formed by the left ovarium, which had descended through the inguinal canal and ring, which was much larger than is usual to find it in girls. The uterus, drawn by the round ligament, and by the ovarium which formed the hernia, had deviated from its natural position, and was inclined towards the left side of the bladder. The left kidney, instead of being found on a level with the other, was drawn downwards by the cellular tissue, with which it was enveloped, and also by a fold of the peritoneum, which was

---

* See some very interesting papers by Dr. Young Simpson, in vols. 50 and 52 of the Edinburgh Journal. In these, he relates many cases of intra-uterine peritonitis, and enters very fully into the causes and effects, both upon the life of the fœtus, and in the production of congenital herniæ and malformations.

intimately connected with the orifice of the sac: the renal artery had also yielded to this traction, and was elongated and narrowed; lastly, the ovarium and the fimbriated extremity of the fallopian tube, a little reddened and tumefied, were lodged at the bottom of the sac formed by a prologation of the peritoneum, with which cavity it communicated. There were no convolutions of the intestines adhering to the surrounding parts, and the ovarium of the opposite side was in its usual situation. Upon carefully examining the round ligament of the uterus on the side on which the hernia existed, I found it much shorter than that of the opposite side, and that it terminated in the labium by an aponeurotic expansion, in place of losing itself in loose filaments, as is usually observed to be the case: from which it would seem, that the ligament, shorter and more firmly fixed to the labium, had, in the first place, caused the deviation of the uterus, and afterwards drew with it the ovarim through the ring." 362.

4. *Urinary and Generative Organs.*

1. *Malformations of Urinary Apparatus.*—These are more numerous than those of any other organ; and, owing to the close connexion of the various parts of the apparatus with each other, malformations usually occupy more than one portion of the apparatus. Thus, Dr. Billard mentions a case of obliteration of the ureter, accompanied by, and causing, a true congenital dropsy of the kidney; and another, of obliteration of the urethra, followed by enormous distention of the bladder, ureters, and kidneys.

As to the *excretion of urine* in the fœtal state, speaking of these two cases, he says:—

"They will serve to prove that the excretions of the fœtus, at least those of the urinary organs, are, in the normal condition, rejected from the body, and probably are mixed with the waters of the amnios; since it appears that, when any obstacle occurs to the passage of this fluid, it reflows into the reservoirs, and distends them excessively, in the same manner as is observed in adults who are affected with a stricture of the urethra, or paralysis of the bladder." 347.

2. *Inflammation of the Bladder.*—Although Dr. Billard is not conversant with any symptoms of this affection in the young child, yet he has often found, in post-mortem examinations, well-marked signs of its existence, and to it he is inclined to refer some of those cases of retention which are usually attributed to paralysis of the bladder.

3. *Retention of Urine.*—Upon this subject, Dr. Stewart observes, that, where the secretion is suspended, and the bladder empty, we may generally re-excite it by an infusion of parsley root, and a little spt. æth. nit.; especially if we aid these by the bath and enemata. Fomentations and frictions will often relieve, when it arises from spasm of the neck of the bladder; but if these means be not successful, we must soon employ the catheter. He agrees with Dewees, that infants have been often lost from this affection having been overlooked; and recommends us always to make an examination of the abdomen, where there is the least reason for suspicion.

4. *Bloody Discharge from the Vulva.*—"It is not unusual to observe red and fluid blood flow continually from the vulva for some days or weeks after birth.

From the observations of Dr. Ollivier of Angers, this discharge, which is somewhat like the catamenia of adult females, continues sometimes a week, fifteen days, or more, without any inconvenience being experienced by the child.
It is unaccompanied by redness, swelling, or any symptom of irritation. The child has no difficulty in urinating, the alvine evacuations are neither more nor less frequent than in the normal state, and the general health of the child undergoes no derangement. It would seem as if Nature had anticipated, in some sort, the establishment of the function which is developed and regulated at a later period of life." 497.

Dr. Billard says, the vagina is naturally much lubricated with tenacious mucosity; but he does not mention the case of this becoming profuse, forming, what has been called *infantile leucorrhœa.* Arising usually in a state of depraved health, this becomes, sometimes, both profuse and troublesome; and, when accompanied with irritation, it has led to very injurious suspicions.*

5. *Gangrene of the Vulva.*—This has much analogy to the gangrene of the mouth, already treated of; and is especially likely to follow the cutaneous phlegmasiæ, as erysipelas. It is sometimes very obscure, and should be early treated with cauterization. It differs from the affection of the mouth by the absence of the typhoid symptoms.

> " In gangrene of the mouth, all the gaseous products of the local disorganization are exhaled at the orifice of the respiratory passages, and perhaps the pulmonary absorption of the putrid emanations of the gangrenous part may be the cause of the symptoms of debility accompanying the disease. Indeed, all the phenomena appear which arise from injecting putrid matter into the veins. In gangrene of the vulva, nothing of the kind is to be seen; for there are present a constant febrile action, cries, and restlessness, the intensity of which increases with the progress of the disorder; the disorganized part being isolated, and not in the vicinity of the opening of the respiratory organs, the inspired air is not charged with deleterious particles." 499.

5. *Organs of Respiration.*

1. *Coryza.*—This affection, though often very trivial, is, at other times, of great importance. The unimpeded state of the nares, is of infinitely more consequence to the infant than to the adult; seeing that much more of the respiratory function is performed by their agency, especially during the time of suckling. When coryza becomes very severe sucking is almost entirely prevented, and the child becomes exhausted with fatigue, pain, and inanition. The disease may be very rapidly fatal. Sometimes it is accompanied by pellicular concretions, in which cases the children may quickly sink; while, in the chronic cases, the membrane may become disorganised. Hydrocephalus sometimes follows; or gastro-enteritis may accompany it. In the *treatment* of these cases the child should not be permitted to suck, but should be

---

* See Percival's Medical Ethics. Medico-Chirurgical Transactions, vol, 7, p. 94. Dewees' Diseases of Children. Sir A. Cooper's Surgical Lectures. Lawrence, in Lancet, No. 363; and Locock in Cycl. Pract. Medicine, Art. Leucorrhœa.

fed, while, if the powers of deglutition be very defective, recourse should be had to nutritive injections. Emollient vapours, by temporarily encreasing the tumefaction of the parts, only add to the distress. Laxatives are required, while a blister at the nape, or on the arm is useful.

2. *Congestion and Inflammation of the Larynx.*—At birth, this organ is very much injected. Sometimes there are ecchymoses in the cellular tissue, as if from external violence; while, in others, blood is exhaled from the mucous membrane, especially in plethoric infants, and when the cellular tissue is hard and œdematous. *Laryngitis* is not so common in infants at the breast as it is in older children. The disease seldom existing alone is often very obscure; but may sometimes be distinguished by the cry, which is so faint as hardly to be heard, while the reprise is acute and predominant. Although there is not vomiting, as in œsophagitis, yet, is the millk sometimes suddenly rejected by a spasmodic cough. It is to be recollected, that when the larynx is narrow, the least tumefaction may be attended with violent spasm of the whole of the respiratory organs: a state which Dr. Billard has also found, after death, to have arisen from the collection of a large quantity of thick mucosity. He recommends in treating this disease, the use of leeches and fomentations to the throat, and rubefacients to the feet.

3. *Croup.*—Dr. Billard considers the analogy between this affection, and common catarrh proved: the membrane resulting differing only in degree of consistence from the ordinary catarrhal secretion. "It is a catarrhal phlegmasia, but the blood destined to the secretion of mucosity is, in the case under consideration, concentrated in greater abundance, or rendered plastic by inflammation, and imparts to the mucosity that portion of its composition which concretes the quickest, that is the fibrin; whence arise the striæ, pellicles, and white patches with which the mucous membranes affected with muguet or croup are covered." Young infants are not so susceptible to the disease as are older children, but are more so to other affections of the mouth and nasal fossæ; and the readiness with which symptoms of suffocation arise in young children, suffering from affections of the air-passages, render these to them almost as dangerous as croup.

Treatment.—The author, after detailing his mode of treatment, which contains no new points, relates, with very natural compunctions of conscience, a case in which he was induced to follow Bretonneu's proposal, of opening the trachea; to give the gasping child the remote chance of breathing through a portion of the air-tube yet unaffected? Oh, no!—that were too simple a matter: but, "to introduce a quantity of alum or calomel, to destroy and remove the mucous pellicle!" The young girl in question died during the operation.

Dr. Stewart speaks of the "uniform success," following the adoption of the plan of treatment of Dr. D. Hosack, and it seems to us a very judicious one; we present an abstract of it:—Dr. Hosack considers the differences of opinion, as to treating this disease, to have in a great measure arisen from our having neglected to observe sufficiently accurately its division into various *stages.* He himself distinguishes the three following. *First.* Wherein the affection is strictly *local;* no reaction of the general system present—the cough and wheezing inspiration, with the cries after coughing, alone denoting the impending mischief. In this stage—the *forming* one, we should, by the most active means, endeavour to restore the suppressed secretions of the trachea and pulmonary membrane, and by open bowels and open skin, to guard against the general excitement of the system. For this purpose, he employs an emetic of ant. tart. and p. ipec. repeating it until a copious secretion from the trachea and lungs result. *Second Stage.* The whole system partakes now of the irritation; fever, increase of cough, and wheezing without interval; the dyspnœa, owing to the trachea, bronchi, and lungs being overcharged with fluids is most urgent; now also, symptoms much resembling apoplexy appear. When this state of things occurs, peculiar effusions take place in the wind-pipe, bronchi, and vesicular structure of the lungs, (membranous in the two former, and a viscid fluid in the latter); after which the febrile symptoms may subside, but the local ones become more and more urgent. Here the most efficient means of diminishing the plethora of the vessels, and of diverting the irritation from the affected part, become necessary. Here then it is that free *bleeding,* repeated as occasion may require, should be had recourse to. The child should not, as recommended by Ferrier, be bled to syncope, but say we take from two to four ozs. from a child under two years, and from four to eight ozs. from a child between two and six. Partial relief immediately ensues, but we must not trust to it; and immediately after bleeding Dr. Hosack again resorts to emetics. If, after the operation of these, the symptoms still continue violent, the bleeding must be again repeated, the patient be immersed in a warm bath, a large blister applied to the throat, and calomel (gr. v. 2dis horis) pushed on until, aided by injections, it causes free purging. If still unsuccessful, calomel and James's powder may be given (gr. ij. to v. under four years) every two hours; but, when free stools have been produced, tartar emetic may be exhibited so as to excite nausea and relaxation; while, if the cough be very troublesome and the fever subsided, some laudanum may be added. *Third Stage.* From this, in which the effusions have occurred—the *membranous* stage—recovery is so rare, that it might be called the fatal stage: calomel, squills, *seneka,* ammonia, assafœtida, the vapour of vinegar and water, &c. being remedies which excite the secretions without impairing the strength, may, by persevering use, sometimes be the means of ejecting the effused matters. It is at this stage that *seneka* is useful; while it and other like remedies may be entirely improper when used, as they sometimes are indiscriminately while the organs are preternaturally excited, as in the forming and febrile stages. In this stage vitriolic emetics have been sometimes useful.

We cannot quit this important subject without strongly directing our readers' attention to a very important communication in the Dublin Journal,* by Dr. Lehman; in which he recommends attacking croup, at its very outset, with the constant and efficient external application of heat to the throat.

---

* This article is translated in the eighth vol. by Dr. Graves, from the Medicinische Zeitung, and consists in the recommendation of the use of hot water. In the same volume is a communication from Dr. Kirby, recommending, from long experience, the application of hot salt to the throat.

An important remedy, indeed, is this, not only for the ease with which, in the absence of the medical attendant, it may be had recourse to; but also, from the undoubted efficacy we have known attend its employment, especially when the diaphoresis it has a tendency to produce, has been accelerated by the simultaneous use of small doses of the tartar emetic. Practitioners would do well to instruct the heads of families of the important means they have at hand, in order that they might have instant recourse to it, while medical aid is sent for; and, although we may be sanguine in our anticipations of a good result in the great mass of cases; yet, surely the most sceptical will allow the remedy is at least harmless, and may serve to fill up that terrible interval which elapses prior to the arrival of the medical man:—when, to the affrighted imagination of the parent, the little sufferer's life seems ebbing away, and "nothing done."

4. *Imperfect Establishment of Respiration at Birth.*—"The experiments of Haller, and those more recently made by Beclard, have demonstrated that the child during its sojourn in the uterus, exercises in the midst of the waters of the amnios movements of inspiration and expiration; of course no air can enter during this first act of the respiratory apparatus. It is also possible for these movements to continue after birth with too little energy for the air to enter the lungs, either because the cells of the organ do not dilate, or that the bronchiæ are closed with mucus, more or less thick, adherent to their sides. *Yet the child may live in this condition for some hours, or even days;* and if the lungs be examined after death, not the *least trace of air* will be found in them. I have had the opportunity of examining six infants, who had lived without air having penetrated their lungs in sufficient quantity to prolong their lives. They were all remarkable for extreme feebleness, slowness of their movements, and the peculiar alteration of their cry, which consisted only of an acute hiccup. 399.

Such cases, which may properly be called, "*feebleness of birth,*" are quite opposed to cases of true asphyxia, and would be much injured by bleeding. Free exposure to the air and friction are the chief means to adopt for their relief.

5. *Asphyxia of new-born Infants.*—This, depending upon a congested state of the heart and vessels, is a very different condition of the system to the foregoing. The congested state of the heart and lungs with which some children are born, prevents the air having due access to the air-cells; and, as it is only encreased by the attempts at crying made by the child, these should therefore not be encouraged. The funis should be divided, and permitted to bleed freely; and, if the congestion continue, leeches to the axillæ may be useful.

6. *Congestion of the Lungs, and Pulmonary Apoplexy.*—The young infant's lungs are often much congested; and it is not always easy to draw the line of distinction between the effects of congestion and those of inflammation. Engorgement is most frequent at the posterior parts of the lungs, and oftener at the Hospice on the right side, owing to the habit the nurses have of laying the child on that side. In distinguishing this affection from hepatization, it should be remembered, that the heart and its vessels are always much congested. The symptoms are often very obscure; we find a

bloated face, smothered cry, laborious respiration, and percussion* dull. There often results from this congestion, a circumscribed effusion of blood into the tissue of the lungs, forming *pulmonary apoplexy*, a disease much more common in young infants than in adults. In *treating* the affection, the author says—" The first indication to be fulfilled is the abstraction of blood, which can best be done by one or two leeches under each axilla; the subcutaneous venous plexuses in this region communicate directly with the vessels of the thoracic cavity, and are thus convenient for the sudden evacuation of blood from the affected part. It is of the greatest importance to avoid clothing too tightly a child that presents these symptoms, either at birth, or at a more advanced age, for by impeding the dilatation of the thorax, there is danger of augmenting the congestion." 406.

7. *Pneumonia.*—This differs in its *nature* from the affection in adults.

" Pneumonia of infants exhibits peculiar characters. Instead of being an idiopathic affection, arising from irritation developed in the pulmonary tissue under the influence of atmospheric causes, which often excite this disease, the pneumonia of young infants is evidently the result of a stagnation of blood in their lungs. Under these circumstances, this blood may be regarded as a kind of foreign body, and it concurs in producing an alteration in the pulmonary tissue with which it combines, and is identified with it, so as to form what is called a hepatization of the lungs. In proof of this, it is known that pneumonia almost always follows congestion or engorgement of the lungs, and affects the right lung much the most frequently in the children of the hospital. Besides, the inflammation of the lungs is ordinarily very circumscribed, and is found almost constantly confined to a point previously engorged, and the pleura, which in the greatest number of instances is inflamed at the same time with the lungs at a more advanced age, is not affected in infants." 406.

As to the *treatment*, it consists in the application of from two to six leeches to the base of the chest, or under the axillæ;—the substitution of weak milk and water for the breast;—dry cupping, or blistering the chest or arms;—counter-irritation of the extremities;—purgatives.

8. *Bronchitis.*—Although ordinarily pointed out by symptoms evident enough, this may exist in a *latent* form.

" I have, in four instances, seen the remote ramifications of the bronchiæ very red and filled with thick mucosities in the bodies of children who had died eight or ten days after birth, and where there had been neither râle nor cough during life. In two of these children there was pneumonia with pulmonary engorgement; in two others the lungs were healthy, and death occurred from intestinal phlegmasiæ." 416.

Chronic Bronchitis—Bronchial Catarrh.—This is sometimes very tedious, and is often attendant on some form of phlegmasia of the pulmonary tissue, or even on the formation of tubercle; it is also often co-existent with gastro-enteritis. It sometimes, however, continues nearly during the whole period of suckling, without any great detriment to the health, and need not cause alarm as long as emaciation does not occur. All the symptoms of suffocative catarrh are, however, sometimes present.

---

* Dr. Billard considers *percussion* a more useful means for the detection of infantile disease than auscultation, especially when performed as by M. Baron, who has acquired great tact in, and powers of diagnosis from its employment. He suspends the child, by applying one hand to the anterior part of the chest, and strikes small blows with the index and middle finger of the other, upon its posterior and lateral parts.

In the *treatment* of bronchitis, Dr. Billard recommends very similar means to those adopted for pneumonia, with which it is often combined. This is contrary to our experience; for we have constantly found, that infantile bronchitis, if seen early, may be removed by ipecacuanha, given first in emetic and then in nauseating doses; applying a blister, for two or three hours, if the case is obstinate, and the skin cool. Leeches, however, are of course required, when the case becomes complicated with pneumonia.

In *chronic* cases, Dr. B. recommends blistering between the shoulders, and the use of the balsam copaiba; of this last he has however no experience, but quotes a paper by Dr. La Roche,* speaking highly of its use; but we believe, Dr. La Roche's observations were confined to adults.

9. "*Pleurisy* is more common in young infants than is generally believed; it often appears without the lungs participating in the inflammation." Its diagnosis is difficult; but Billard places considerable stress upon the circumstance of the *cry* continuing entire while the percussion is dull. The affection may become chronic in even very young children.

10. *Œdema of the Lungs.*—This frequently occurs in cases of induration of the cellular tissue. Although it usually causes very laborious respiration, yet Dr. Billard has found it to a considerable extent after death, no symptom denoting it during life; in such cases, he supposes it occurs only at the period of dissolution.

11. *Hooping Cough.*—Speaking of its *nature* Dr. B. says—

"It is difficult for us positively to ascertain the nature of hooping-cough, but we may still obtain some knowledge of its principal characters. Thus it is evident that it is a bronchial catarrh. This catarrh however has something peculiar: the cough which it produces is always suffocative, convulsive and paroxysmal. This nervous complication is to be noticed, for here its specific character commences, and we can see it, but are unable to explain it; yet I will make one remark upon this nervous complication; it is, that, in adults as well as in children, affections of the larynx, trachea, and also of the bronchiæ, often give rise to a sudden local or general spasmodic irritation, characterized by spasm of the affected organ, or by general convulsions. Tonsillitis, angina, croup, foreign bodies in the trachea, tumors compressing the air-tubes, produce a cough more or less suffocating, very remarkable for its remissions, and which has, in some cases, a striking resemblance to hooping-cough. Admitting, therefore, the specific nature of the catarrh in this disease, and that it consists especially in a nervous complication, we are disposed to the opinion that, in many other instances, the diseases of the same organ may exhibit very evidently a nervous complication; whence it will follow, that if in a similar complication consists the specific nature of hooping-cough, the seat of the disease and the physiological lesion which exists between it and the nervous system, may concur in a manner that will produce the specific quality of the disease in question. The same disease, in different parts of the system, often presents various characters: different diseases having the same seat, sometimes exhibit analogous characters; the seat of the affection then has something that imparts a specific quality to diseases in general, and ought to be considered when treating them. There is also another circumstance which ought to be considered as peculiar to hooping-cough—the co-existence of mucous vomitings affected by the cough. It is explained by the relation existing between the mucous membrane of the bronchiæ and that of the stomach, and the frequency of the cough very naturally accounts for the frequency of vomiting." 426.

---

* North American Med. Journal, No. 6, p. 34.

Treatment.—Dr. Billard recommends vigorous antiphlogistic treatment in the first stage, which he considers as purely inflammatory, and narcotics and antispasmodics in the second. He disapproves of emetics, and says that Guersent has found equal parts of zinc, belladonna, and cicuta (commencing with gr. ¼ ter) very useful. Drs. Stewart and Eberle, also agree with the Germans, as to the value of belladonna, especially the formula of Dr. Kahleiss.*

6. *Circulatory Apparatus.*

1. *Obliteration of the Fœtal Openings.*—As the most important facts stated under this head are now embodied in works of medical jurisprudence,† we will only cursorily notice the author's conclusions, from his numerous examinations:—

> " From this exposition, it is evident that the fœtal openings are not obliterated immediately after birth; that the period at which this occurs is very variable, yet the foramen ovale and ductus arteriosus are usually closed on the eighth or tenth day. It results also that the modifications which follow the cessation of fœtal life, in the circulatory organs of a new-born child, occur in the following order: the umbilical arteries are first obliterated, then the vein, next the ductus arteriosus, and lastly the foramen. The pre-existence then of the fœtal openings for some days after birth ought not to be considered as a disease, since it is not uncommon to meet with it without its having given rise to a single symptom. This irregularity or tardiness is attributable to the mode of obliteration." 440.

He attributes the *establishment of the new circulation* to organic changes in the parts concerned. Thus, long prior to birth, the foramen ovale has gradually been undergoing change, so as to offer more and more obstacle to the passage of the blood; while, there is gradually deposited in the umbilical arteries, and ductus arteriosus, elastic matter, which, by its contractile power, impedes the farther progress of the blood; producing what the author calls an *active obliteration*, as contrasted with that of the umbilical vein and venous duct, which is a mere *passive* obliteration, resulting from absence of blood. Now, these organic changes may occur prematurely, or tardily; producing in different children different periods of obliteration.

---

* ℞. Pulv. rad. belladon. gr. iv.; pulv. Doveri, gr. x.; lac. sulph. ℈iv.; sach. alb. ʒij.; M. divid. in ch. 20, cap. i. 3tis horis. This is for a child two years old, and between each dose, a teaspoonful of the following mixture is to be given. ℞. Aq. chamomile ℥j.; syrup. ʒij.; acid Prussic Vauqul gtt. xij. M.

† Beck, 5th Edit. Ryan, 2nd Edit.

The new-born infant does not require a perfectly oxygenated blood:—

"The accomplishment of these phenomena of transition must doubtless be attended with an incomplete oxygenation of blood, since all this fluid which the heart propels to the different parts of the body, has not passed through the lungs. But, after all, is it necessary that the blood of an infant just born should be oxygenated equally with that which passes through the arteries of an adult? Would it not rather appear, that the tender frame of a new-born child ought not to receive blood possessing too great stimulating properties; that the materials of nutrition should not be too suddenly charged with exciting principles, the action of which, on the organs of an infant, may be injurious to its health, and to the progressive establishment of independent life? I am of this opinion and do not think its correctness can be denied, flowing as it does from the anatomical examination of the circulatory organs of the young child. This assertion is supported by another remark;—the lungs would be exposed to fatal congestions, if the pulmonary arteries should suddenly throw into them all the blood which flows into the heart. The ductus arteriosus, by permitting the blood to pass through it, comes, as it were, to the aid of the respiratory organs, the congested state of which will not permit the air to arrive freely in the cells. The establishment of independent life is, therefore, actually promoted by the continuance of fœtal life." 443.

2. *Aneurisms.*—These are very rare in the infant; but Dr. Billard mentions two cases. 1. *Passive aneurism of the heart*, in which "the heart was about the size of a hen's egg: the ventricle and auricle of the right side, formed, as it were, the volume of the organ. Their cavities were very much dilated, and their walls almost as thin as a sheet of paper; while the opposite cavities were very much contracted, and their walls hypertrophied." 2. *Aneurism of the ductus arteriosus.*—In this, "the heart was larger than is usual for an infant at birth; the two lateral cavities were nearly equally dilated, and were filled with black blood; the ductus arteriosus existed in the form of a large cherry-pit; its transverse diameter was about three lines and a half, and its circumference nine: from an external examination it appeared to open widely into the aorta; this size, however, existed only exteriorly, for the interior of the tumor was filled with fibrous clots, organized and disposed in layers, as is seen in aneurismal tumors of adults, leaving in the centre a very small hole."

3. *Colour of the Heart.*—Externally, in young children it is of a deep red, and when very pale, it is in an abnormal state. Internally, also, it is of a more or less deep red, the right cavities being much more so (viz. of a violet or logwood hue;—a colour which is not produced by putrefaction, even when advanced,) than the left. The vascular system, generally, is turgid, and ecchymoses or effusions are often produced: but when the blood is cleared out of the vessels, they then appear of a whitish colour.

4. *Pericarditis.*—"If inflammation of the proper tissue of the heart is rare or difficult to prove in young infants, inflammation of the pericardium is more common. Perhaps it is more frequent at the first period of life than at any other: in nearly 700 post-mortems at the hospital, I have seen seven well marked cases."

7. *Cerebro-Spinal Apparatus.*

1. *Gradual Development of the Brain in the Infant.*—"It appears, therefore, that, from birth to the age of one year, the brain of a child is in a true state of *transition*, and that this organ, scarcely perceptible in the beginning, reaches its proper organization about the 9th or 12th month. Is it not owing to this modification occurring in the brain of a child, that the frequency of cerebral affections at this age are to be ascribed? Not only has the brain undergone, during the first year, these organic modifications, but the exercise of its functions has also increased; it has gradually acquired its control over other organs, and it has become fit to receive from them the sympathetic indications with which it was before unaffected; it is the centre and regulator of the sensations, and this influence is felt even in disease; we frequently see, during the first period of life, great alterations in the organs, unaccompanied by any febrile re-action, any general symptoms, or any morbid sympathy; but at the age of which we are now speaking, every thing assumes a new aspect; fever, which is scarcely ever seen in new-born children, here makes its appearance on the slightest cause; hence the restlessness, cries, spasms, nervous mobility so common, so easily excited, and at the same time so transient, in children who have passed the period of infancy. These considerations will prove to us the difficulty of studying the diseases of early infancy; the cause is evidently in the organic imperfection of the encephalon, which cannot reveal to us the signs and external symptoms of these diseases." 456.

2. *Congenital Malformations.*—This section contains an interesting resumé of what is known on the subject, but no particular novelty. We may, however, notice two cases of anencephalia, without absence of the cranial cavity. The one, in whom the forehead and summit were much flattened, lived for forty days, during which time crying, respiration, and suckling were performed without difficulty:—"after death, we found only the cerebellum, thalami, the third and fourth ventricles. The fornix was separated at its middle. The posterior part of the hemispheres was sufficiently developed, but they were deficient anteriorly, leaving exposed the anterior part of the lateral ventricles." The other case lived three days, and "on opening the cranium, instead of finding the brain regularly formed, there was only a sac formed of the meninges, on the surface of which the vessels appeared as usual; this sac contained a bright yellow fluid, liquid and inodorous, like serosity. When it had flowed out, the cerebellum could be seen at the bottom of the cranium, covered by the tentorium, the rudiments of the falx cerebri, the medulla oblongata, the thalami, and the corpora striata; on the outside of these floated some pulpous fragments, which appeared to be the rudiments of the cerebral hemispheres. The pia mater, which formed the internal tissue of this cerebral cyst, was covered here and there with a great number of pulpous and cerebriform flakes."

3. "*Congenital Hydrocephalus* is, in all probability, the result of an inflammation of the meninges during intra-uterine life, or of some malformation difficult to ascertain; bearing some resemblance to a nutritive hypertrophy of the encephalon. This idea is favoured by the development of the cerebral mass and the bones of the cranium in hydrocephalus fœtuses. These bones acquire a breadth and thickness, not only resulting from inflammation of the meninges, (which cannot alone account for the phenomenon), but it evidently shows an increase of nutrition, which may be regarded as one of the causes of hydroce-

phalus. It is worthy of remark that, after birth, children, where the brain and cranium are very much developed, are also much exposed to hydrocephalus." 467.

4. *Congestion of the Infant Brain.*—" Injection of the meninges of the medulla and of the brain, is so common in infants at birth, that it has appeared to me more proper to consider it as a natural, rather than as a pathological state. It is found in most dead bodies; vascular injection, and even effusion of blood at the inferior and posterior extremity of the spine, are very frequent. I have often seen it without its having given rise, during life, to any appreciable symptom." 473.

If, however, this injection be much prolonged, exudation of blood, and consequent pressure will occur, producing a true *apoplexy*. Sometimes the hæmorrhage is very circumscribed, of which Dr. Billard has met with a case in a child, who died apoplectic the third day after birth; and he cites a case by M. Berard, who found in a fœtus of 8½ months, a clot about the size of a nut, lodged in the substance of the brain.

5. " *Non-Inflammatory Softening.*—This is a lesion peculiar to the encephalon of new-born infants, and is the result of congestion. This is a species of softening either general or local, which, far from presenting the characters of inflammation, on the contrary, presents all the signs indicating decomposition, and we might almost say putrefaction of this organ." Although it would seem often to result from congestion, yet may congestion exist without it, and it without congestion. It may be partial or general, involving all parts of the brain, except the meninges, and yet, " notwithstanding this destruction of the encephalon, children will live some days, not possessing simply, as is vulgarly thought, a mere breath of life, but actually respiring, crying and sucking: this occurs when the disorganization is arrested at the medulla oblongata, which remains unaffected, and which, with the medulla spinalis, controls the phenomena of life, even preserving it for some time." 475.

This softening is sometimes congenital. The *symptoms*, arising from these congestions, are a great prostration of the powers, with a congested state of the surface and of the respiratory organs; and he recommends bleeding from the funis, and the application of leeches afterwards to the occiput, if required.

6. *Inflammation.*—" It is without doubt a great advantage that the brain in children is one of the last of the viscera that becomes organized; for, if at the period of birth, it possessed all the organic and vital properties which is observed in the digestive or respiratory apparatus, it would be exposed to frequent inflammations. But its pulpous, and we might almost say its inorganic state, renders it but little disposed to phlegmasiæ, which might be developed after the congestions, of which it is always the seat at the time of birth. I can affirm that well-marked inflammation of the cerebral substance is rare in new-born children; that of the meninges is more common." 476.

Sometimes, as the result of inflammation, the cerebrum or spinal marrow become indurated, at others softened; the former state especially occurring when the inflammation has made little progress. Softening of the spinal cord rarely exists without softening of the brain; but the reverse of this observation does not hold: the softening is accompanied by a decided odour of sulphuretted hydrogen. The symptoms of prostration are more evident in proportion as the spinal-marrow becomes implicated, until when they are often not very obvious. "It may be laid down as a general principle, that extreme softness is always attended with a general paralysis or loss of sensibility; and when the consistence of the nervous tissue is encreased, there are either convulsions or an exaltation of sensibility." Induration and softening of the medulla may co-exist in different parts. The author has placed inflammatory and non-inflammatory softening in different sections, but he has given us no marks whereby to distinguish the one from the other. Indeed we doubt not that such distinction is often nearly or quite impossible. He observes, that however able we may be to distinguish *meningitis* by the accompanying convulsions or cries, yet, as *encephalitis* often presents no decided symptoms, we cannot, in young infants, decide upon its existence, when uncomplicated with meningitis, which however it rarely is.

7. *Convulsions.*—These, Dr. Billard considers as almost always dependent on a greater or less degree of meningitis, although this may not be manifested after death by other appearances than a slight injection. Speaking of the insufficiency of the morbid appearance in many of these cases, he says: "Besides, as it is much more common to find convulsions in infants with meningitis, than to meet with them without this inflammation, analogy might produce the conviction that the convulsions of children, whatever be their form or degree, whether known as spasms, cramps, twitchings, &c. all arise from cerebral or spinal meningitis. This opinion has been fully demonstrated by M. Brachet of Lyons."*

This same reasoning by *analogy*, which, when rigorously conducted, may be the means of great elucidation and discovery, when loosely employed may lead to grievous error. The opinion held by our author is one which was also maintained formerly by a celebrated writer of our own country, and which, after doing infinite mischief by the indiscriminate depletory measures it sanctioned, is now happily exploded. Every body acknowledges that some of the worst forms of infantile convulsive diseases have their seat in a diseased brain; but it is also known, that the great bulk of such cases originate from causes less serious and more removable.

8. *Tetanus.*—Dr. Billard has met with two cases in young infants; in both of which was found effusion into the arachnoid of the medullary canal.

8. *Organs of Locomotion.*

Congenital Luxation of the Femur.—This section contains a resumé of the opinions of Dupuytren. The affection may exist upon one side only, though usually it is present on both. It is not usually observed at birth, but only as the pelvis encreases in width; "it is then that the want of support of the upper part of the body on the pelvis, and its inclination forward, the hollowness of the back, projection of the abdomen, arched movements of the extremities, defect in the flexibility of the head of the femur, its alternate elevation and depression in the external iliac fossa, &c. begin to be very evident."

---

* Memoire sur les Causes des Convulsions chez les Enfans, 1824.

As to the mode of its production:—

"This dislocation is generally upward and outward, and the head of the bone rests in the external iliac fossa. According to Dupuytren, this displacement appears to arise from the habitual position of the legs of the fœtus in the uterus. The thighs are closely flexed upon the abdomen, and the heads of the bones are continually pressing against the posterior and inferior part of the capsular ligament; this unceasing pressure, although without any effect in well-formed individuals, may produce a dislocation in others whose tissues are less resisting."* 492.

9. *Lymphatic System.*

"Diseases of the lymphatic system are not so common in the first eight or ten months as they are after that period. I will not, therefore, stop to describe them, but will simply remark that the lymphatic glands of the mesentery, which so easily become affected with chronic inflammation, and even with tuberculous disorganization, in children above the age of a year, affected with chronic inflammation of the intestines, do not in very young infants become the seat of phlegmasiæ; but the only alteration observed is a slight tumefaction; and when the gland is cut, it is found to be a little more condensed than natural, and of a rose colour. The changes which age effects in the nutrition and texture of these organs dispose them particularly to chronic inflammation, known under the name of *tabes mesenterica*. I do not say that infants at the breast are exempt from this disease, but that it is of rare occurrence. The lymphatic ganglia of the neck and those surrounding the bronchial divisions and root of the lungs are, in young infants, much more frequently inflamed or enlarged than those of the mesentery. The mesenteric ganglia are but slightly developed at this period of life; but they increase considerably in the course of a year; and it is to be observed that their diseases and alterations become more frequent in proportion as their development acquires a marked predominance in the system." 500.

10. *Ophthalmia of Infants.*

We rest at this section, which is a very meagre one, only for the following remark:—

"Opacity and softening of the cornea are not produced by purulent ophthalmia alone. I have seen several children, who had been reduced to complete marasmus by gastro-intestinal diseases of long duration, affected, without palpable inflammation, with softening of the cornea, which was followed by perforation and discharge of the humours of the eye. This species of spontaneous softening reminds me of the fact noticed by M. Majendie in a dog, which, being fed for a long time with sugar only, died after having been reduced to great emaciation. Was defect in alimentation the cause of the softening of the cornea?" 505.

11. *Bloodletting in Infants.*

Dr. Billard makes no remarks upon this subject; but, judging from the treatment of his cases, he uses it very sparingly; seldom ordering more than two or three leeches. Dr. Stewart pursues the subject at some detail in the Appendix, deprecating the modern substitution of leeches for the lancet. He remarks, that the assimilative functions are very rapid in the infant, and that thus abundance of blood is formed, and the child very liable to congestive and inflammatory diseases; which are unattended with those complications, which in adults often forbid bleeding. It is the more called for, because, in them, the progress of inflammation is very rapid. He thinks, that the danger of the occurrence of convulsions has been greatly exaggerated; and that, when these have happened, the bleeding has been either carried too far, or was not required by the nature of the case. The most alarming cases of prostration from the loss of blood, with which he is acquainted, have arisen where leeches, not the lancet, were employed—an observation in which the experience of most practitioners will bear him out. The evils which might otherwise attend general bleeding in infants may be obviated, by its early employment, the careful proportioning of the due quantity to the necessity of the case, and, when nervous symptoms or exhaustion manifest themselves, the prompt use of a mild opiate or Dover's powder.

---

* See Dupuytren Repertoire d'Anatomie, T. v. and Leçons Orales: also a valuable paper upon this subject, by M. Gerdy, translated in No. 848 of the Lancet.

"Another reason has been mentioned for preferring local to general bleeding —it is the difficulty of finding a vein in the arm; this, with a little care and practice, need not exist. If, after applying the bandage, the part of the arm where the vein lies be gently pressed and kneaded in order to empty the cellular tissue lying over it, the vessel will in a short time be brought nearer the integuments, and may be distinctly felt, if not seen. A vein in the back of the hand may often be found, if there should be any difficulty in discovering one in the arm; or a vein may be opened in the foot. In very young children, a leech applied to the back of the hand after bandaging the arm, will often answer perfectly well." 576.

Dr. Stewart by no means proscribes topical bleeding, which is often the only kind that can be employed; and he especially approves of Dr. Billard's plan of leeching the axilla in pulmonary congestion.

Although we agree with him, that general bleeding is too much neglected in young infants; yet, we are fully alive to the dangers of its indiscriminate use, in affections so difficult of diagnosis, and at an age in which (as we think, contrary to Dr. S.) depletory measures are so ill born. For the prevention of mischief from this source, or for remedying it when it has occurred, we shall find Dr. Marshall Hall's observations very useful.*

12. *Viability of Infants.*

This Essay is a most excellent and critical examination of how far the various malformations and congenital diseases, which the new-born infant may be afflicted with, tend to interfere with its viability. It is founded upon the numerous pathological observations contained in the foregoing part of the work; and may be perused, with the greatest advantage, by the student in medical jurisprudence.†

---

* See his Essays on Bloodletting, and his edition of Underwood.

† An abridgment of the conclusions is contained in Ryan's Medical Jurisprudence, 2d edition.

Professor Francis, of New York, has furnished to the Appendix a paper upon this subject, for the most part highly laudatory and confirmatory of the views of Billard; but, as he justly remarks, Dr. B. has omitted stating at what period of gestation viability may commence. After alluding to Dr. Rodman's celebrated case, Dr. Francis makes the following observations, which are very applicable to a discussion upon the subject, noticed in a recent number of this Review.*

"I am the more inclined to confide in the accuracy of Dr. Rodman's statement from having seen a remarkable instance of a similar kind. In October last, 1838, I was requested to meet in consultation in a case of retained placenta; the patient, from fatiguing exertions, had been prematurely seized with labour-pains, and, after unavailing measures of prevention, was delivered, in the twentieth week of gestation, of a male fœtus, which by distinct respirations sustained life one hour. After death it was found to weigh, one pound, six drachms: its length was ten inches, and it was well formed. Too many circumstances conspired to render the age of the fœtus doubtful; it was the product of a first conception, and the parties were beyond suspicion.

My friend Dr. Wm. Barron favoured me several years ago with a fœtus which was spontaneously protruded between the seventh and eighth month of gestation, the weight of which was little more than five ounces. The cause of so extraordinarily immature and limited growth at this advanced period, was ascertained to be a disordered condition of the cord, which impaired the fœtal circulation. I give you this case because it is calculated to lead us, in all inquiries of this nature, where we might conclude too hastily as to the age of the fœtus by its bulk alone, to advert to the condition of the cord; inasmuch as an abnormal formation of this connecting link between the mother and child, as well as the sound or disordered development of the placenta, must exercise a controlling influence on the vascular energies, and more or less circumscribe the growth and dimensions of the fœtus. There is much that might be said on this subject, and in Cruveilhier we find a number of observations illustrative of the various causes which disturb that functional reciprocity which in the pregnant state is indispensable to the sound and full formation of the uterine product. It is worthy of remark, that in the case published by Dr. Rodman no notice is taken of any peculiarity in the cord, and in that which I have given its healthy structure was obvious.

I will add another case illustrative of the early period at which extra-uterine life may occur, and in which the viability has secured the subject now some seven years. Mrs. B. had been delivered, after protracted sufferings, of a dead male child, at the ordinary term of a first pregnancy. Twenty months after, the inconveniences of a second pregnancy were so great that she was on several occasions threatened with abortion. Neglecting the precautions recommended her, she had, during the prevalence of the Asiatic cholera in 1832, indulged in eating freely of Indian corn, which created much annoyance in the stomach and bowels, and in the opinion of several of her friends it was thought that this indulgence was the exciting cause of her premature labour. By one powerful effort, the entire ovum was expelled. Arriving at this crisis, I had the whole immersed in a vessel of tepid water, and having rendered the mother more secure and comfortable by a bandage, forthwith ruptured the membranes, when to my surprise I perceived a fœtus, apparently of some five months and upwards of growth. The cord was divided, and more than usual care taken with the child; a fillet or ribbon was applied round its head, which seemed unusually large, and the body wrapped in cotton. By unremitting attention on the part of a competent nurse, the fondest wishes of the parents were ultimately realized, and the daughter, in the enjoyment of excellent health, has, at the present writing, completed her seventh year. Subsequent enquiry with the parents concerned made the age of this premature offspring at birth, a fœtus of the twenty-third week of pregnancy." 612.

---

* Medico-Chirurgical Review, for October 1839, p. 424.

In concluding our review of Dr. Billard's work, we again bear our testimony to the variety and importance of the facts it contains; and to the general soundness of the deductions he has carefully drawn from them. But, besides the various points upon which, in the course of this article, we have found it necessary to differ from the author; we must observe that, those who may expect to find in his book a complete dissertation upon the diseases of children, will be disappointed. For, not only does his injudicious limitation of his observations to sucking infants, exclude the consideration of several diseases of early life; but, many of the diseases to which even sucking children are liable, are either entirely omitted, or very imperfectly treated of. Upon the subject of treatment the book is also very defective. It should have rather been termed a treatise on the pathology of very young infants, and on points of medical jurisprudence connected with them. Thus, although in the discussion of questions as to the exact state of the various organs in infantile diseases, Dr. Billard's work must always be referred to as a great authority; yet, our own authors, more empirical and less scientific though they be, are more useful guides in the practical treatment of these important affections. Again, we will venture to say, that the author has sometimes attached too great importance to the appearances after death; we are convinced that in the young infant they are not always of the same value as in the adult, being much more easily confounded with the congestive state, which seems almost the natural condition of many organs in early infancy. Hence we find on his part, a degree of timidity in the administration of aperients and tonics, by no means justified by actual experience.

Of the manner in which Dr. Stewart has executed his task, we can speak in the highest terms. He has not only rendered the author's meaning faithfully, unaccompanied by the Gallicisms, which it would generally seem to be the aim of our translators to introduce rather than to avoid; but, he has, in some measure compensated for the deficiencies of the author by a very able Appendix upon the treatment of various diseases, and by the addition of a large collection of formulæ.

MERCURY, BLUE-PILL, AND CALOMEL: THEIR USE AND ABUSE. By *G. G. Sigmond*, M.D. &c. &c. Lecturer on the Practice of Physic at Sydenham College, &c. &c. Duodecimo, pp. 129, Renshaw, 1840.

THE Author of this little volume is one of the now *comparatively* few physicians who combine not only classical literature, but the literature of their profession, with the science and practice of it. Dr. Sigmond has paid great attention to certain branches of his profession which used to be considered auxiliary, but are now wisely deemed integral portions of medicine —namely, botany and chemistry. Pharmacology, too, which is still more essential than the others, has been carefully cultivated by our author. In the present volume he has selected one of the most important—if not *the* most important, articles of the materia medica, for dissertation, and has handled it with great ability. He modestly claims the merit of compilation, rather than of composition; but it is very evident that there is much of the latter in this volume. And were it otherwise, the judgment necessary for careful selection, and the graces of style calculated to render science attractive, are no trifling merits. Dr. S. justly observes that, his "difficulty has been to condense the vast mass of materials which the judgment, the profound knowledge, and the labour of a great number of writers in different languages, have amassed, and to place it in an attractive form before the young and inexperienced."

The history of mercury, from the times of alchymy, down to our own days, is traced with great labour and research—then the particular preparations of this metal are noticed, and the opinions of eminent practitioners adduced for and against them. The following quotation shews the practical turn of our author's observations.

> "That which is commonly considered a most innocent medicine may be the source of the utmost harm, if it be taken at an improper moment, or under unfavourable circumstances. Medicines generally and apparently unhesitatingly prescribed, are given with safety by those only who are intimately acquainted with their modus operandi. Thus magnesia, than which nothing can be more useful under proper regulations, and nothing is considered more simple, has been productive of fatal consequences, from the ignorance with which it has been administered, or the perseverance in taking it when it has failed in its expected influence. Masses unchanged have been found after death closely collected together, or patches of the powder adhering with the utmost pertinacity to the intestines, because there had been none of the acid with which it should combine to be properly efficacious. Some very curious instances of this kind are upon record, and some of the cases have been, from the apparently suspicious circumstances, made subjects of legal investigation; for even death from arsenic has been supposed to have taken place, when examination has shown that magnesia has been its cause. Manna, so useful a laxative to children, is not to be used incautiously, notwithstanding its usual harmlessness. When much vegetable food has been taken, more especially in young children, if this remedy be given, dyspepsia of a most aggravated character occurs; the quantity of flatulence produced has been a fearful evil, and the consequences have been alarming. Castor oil, one of the favourite popular remedies, if given under improper circumstances, will not only occasion excruciating tormina, but will be the cause of the expulsion of the mucus which lubricates and defends the passages from injury, and what have been supposed to be exfoliations have taken place, leaving behind a surface so irritable, that months have elapsed before a normal state has prevailed. The neutral salts, those of Epsom, of Cheltenham, or of Harrowgate, are not to be trifled with; and many individuals who have recourse to them without proper advice, have to repent that folly; diarrhœa, dysentery, and sometimes dropsy, supervene upon their injudicious use. Gamboge, which has lately crept into fashion as a purgative, is of all others the most uncertain, and oftentimes the most pernicious; its influence is principally exerted upon the muscular fibre, and hence peristaltic action is increased; and as there are many who, from want of proper attention, have costiveness dependent upon a sluggishness of action, they find benefit from pills in which this

forms a principal ingredient. Its power, when it is properly exerted, is very striking, and it becomes, in the hands of the well-informed man, a very valuable adjunct, but it is a most energetic engine of mischief; it has been known to produce introsusceptio, having, from the vigour of its action, caused an inverted motion, such are its stimulating power upon the muscles; and in some of those instances which have come before the public, of death produced by violent action of pills upon the intestinal canals, this drug has decidedly been the means employed. The good sense of the public has taught it to give up the constant employment of aloes, once the basis of every pill that was to act upon the bowels, and gamboge, which is infinitely more mischievous, has unfortunately been substituted; but, of the two evils, the hæmorrhoids produced by aloes are infinitely preferable to the diseases and to the results consequent upon the other purgative. Even senna, the valuable ingredient of the black draught, and which certainly comes nearer to a harmless domestic remedy than any other, is not so alone; it will disorder the smaller intestines for a great length of time; it is not only a momentary cause of griping and of inconvenience, but it leaves behind it a very great tendency to those uncomfortable sensations, and more particularly if the liver have not been previously called into some slightly increased action, by which the bile is poured forth, and thus the general action of the intestinal canal be duly and properly augmented; these circumstances demand the very greatest caution and attention. Indeed, a catalogue of sorrows occasioned by the indiscriminate and foolish use of purgatives might be drawn up; but such is the headstrong tendency some have to doctor themselves, that it would be rather a curious than a useful task to undertake it." 60.

Dr. S. after noticing tho revolution effected in the treatment of fever by calomel purgatives in the hands of Dr. Hamilton,—as also in chlorosis, hysteria, chorea, &c. observes:—

"It has been stated upon good authority, that the putrefying mass, emitting a faint, nauseous, and exceedingly pungent smell, which has been first expelled, after medical assistance, from constipated habits after febrile disease, is capable of transmitting infection to a very considerable distance, and constitutes a miasm of the most fearful character, which speedily depresses the nervous energy of those who may be thrown within the reach of its influence; and hence spring up the host of fevers, which are familiar to some countries, spreading with the most fearful rapidity, and attacking most especially those who are by want of care predisposed to every exciting cause of disease. Few depressing agents are more instantaneous or more certain than the effluvia issuing from fæcal matter, and sometimes in hospitals it has been found that ulcers put on their most unfavourable aspect, if the suffering patient be in the neighbourhood of the temple of Cloacina." 65.

He properly remarks that the system of purgation has been carried too far by some practitioners, notwithstanding the checks sustained by the unreasonable dread of aperients entertained by the disciples of Broussais, and by the Continentals generally.

Dr. Sigmond's description of the catharto-mania is very humourous—perhaps a little too highly-coloured—but still within the boundaries of verisimilitude.

"It has been very sagaciously observed, that the public are naturally fond of the doctrine of the humoral pathologists, and that they are most willing to believe, that, by active purging, there is carried off a great deal of poisonous matter which would enter into the system, and gradually overpower it. When a medical man is called in who is an advocate for the purging system, patients generally soon fall into his way of thinking; they have a sort of gratification in discharging a large quantity of nasty-looking, greenish or black stuff; and if the excretion be attended with any marked fetid odour, they feel a sort of selfcomplacency; they fancy they have discharged a mass of corruption, and they are very far from being indisposed to the advice of the learned doctor who recommends them another dose of blue-pill and a draught; they say they are quite ready for it; and are quite pleased at the idea of another disgorgement, and cannot resist the gratification of making another attack upon the enemy, who, they fancy, must very speedily collect his forces. They voraciously swallow the doctor's stuff, and, as they say, they find themselves lighter, and their appetites improve. They are very much pleased with what has been done for them; and, indeed, were they then to rest contented, all would be well; but they fancy they have discovered the means of attaining lasting health, they therefore give way to the pleasures of the table, quite satisfied with the idea that they know how to get rid of any accumulation that may occur, and think that they are perfectly capable of taking care of themselves; then probably once or twice in the course of every week they swallow some drastic purgative, either quite ignorant of what they are employing, or, from having found, under the hands of the doctor, such relief from calomel or blue-pill, they take a fixed dose of one or other of these. Sometimes, after dinner, a kind friend recommends his own pill from a prescription he had from Abernethy or Baillie, or the fashionable dyspeptic doctor of the day, which he declares he has used twice a week for the last five years, and never known an ache or pain since; the greedy auditor swallows the tale, and afterwards the physic, whose composition may be completely opposed to his state; he goes on with it, week after week, disordering his bowels, expelling the natural mucus, urging on the canal to increased action, till at last his stomach and the whole digestive apparatus become really impaired. He then goes from physician to physician, all over London: each gives him a prescription for a tonic, a stimulant, or a bitter: at length a permanent irritation is kept up, the whole system sympathises with the state of the alimentary canal, the mind is feverish and irritable, the viscera become deranged, and at last the poor sufferer falls a victim to the early benefit which he had received from the proper administration of medicine, and then from its abuse." 67.

"The unnatural colour and the fetid odour of the stools, are quite as often produced by the medicine that has been exhibited, as by any other cause; for often does calomel give rise to the very odour which some persons think is a proof that medicine is to be continued; the slimy stools of children, which are often the cause of purging being carried on to a very great extent, are, in many instances, the consequence of what has been given. As long as the remedial agent is taken, the fæcal residue does not acquire its wonted solid consistence, nor give forth the usual smell, which is acquired from its remaining in a certain portion of the large intestines. It is but, comparatively speaking, from a limited surface that the mixed odour is acquired, and there is a very great difference between that which is caused by the secretion from the liver, and that by the lower portion of the intestinal canal. The offensiveness of the fæcal evacuation, though it may guide the practitioner as to the particular viscus which is disordered, cannot serve as any assistant by which he may ascertain whether more action is required." 68.

In weakly children, the system of purgation is often injurious, by carrying off nutriment before the chyle is extracted from it. It is not, as Dr. Sigmond has judiciously remarked, on mere purgation that the utility of purgative medicine depends; but upon their exciting the salivary, gastric, biliary, pancreatic, and other secretions, and thus aiding the functions of digestion and assimilation. We may observe, from very long experience, that, while the motions are dark and fætid, *without mucus*, there is little danger from purgation, where other symptoms appear to require that measure; but whenever the natural mucus of the bowels begins to present itself with the motions, we ought to slacken our pace, or much mischief will be done. It is curious, however, that patients, in general, think themselves very lucky in getting rid of mucus, or "slime," as they suppose it acts injuriously in the bowels, whereas it is the removal by medicine of that which ought to remain.

Dr. Sigmond glances lightly but historically, at the various writers who have directed the use of mercury to the cure of diseases, and presents us with a curious coup d'œil of the clashing opinions and testimonies of different authors, respecting this celebrated mineral. We quote the following passage as deserving attention.

> "Minute doses of mercury frequently repeated have met with their warm advocates both in chronic and acute diseases; and when Abernethy's mode of administering blue pill has been unsuccessful, the plan of diminishing the dose, and increasing the frequency, has been inculcated. From half a grain to the eighth of a grain has been proposed, and has been considered beneficial, given at intervals of from six to eight hours. I have seen great irritation of the system kept up by this treatment in many cases in which this plan has been followed. In affections in which a vitiated state of the bile was predominant, a degree of nervous excitement has been often produced upon the third or fourth day, which has called for a discontinuance of the remedy. Notwithstanding a rigid attention to the rules which have been laid down in the management of small doses, I have had occasion to observe failures where benefit was expected to be derived. Nor have I found any cases in which Abernethy's system failed from any of the causes which usually operate, in which blue pill could be borne in any dose. I have uniformly found, where blue pill was distressing in one dose, that it was equally so in another, and I have rarely found the minute quantity better borne than the larger, if repeated. An active dose of medicine has generally been absolutely necessary to carry off the source of irritation, and sometimes nervous depression. A great tendency to action, on the mucous membrane especially, marked by sore-throat, has speedily followed a perseverance in this system. To give tone and strength to the system during mercurial medicines generally requires great knowledge of the patient's constitution; for irritation and excitement are as often the result as the depression and debility, which indicate the necessity for the employment of these powerful agents." 89.

The author makes many sensible and practical remarks on sarsaparilla, which we recommend to the young practitioner.

The following passage is deserving of quotation.

> "A distinction is to be recognised between laxative and purgative medicines: the first merely emptying the bowels of such fæcal contents as may already be lodged there, whilst the second class have the power of inducing a still further increase of the quantity, and of stimulating the vessels to pour forth more excrementitious matter. The chloride of mercury will, according to the dose in which it may be given, produce either of these effects; but it is the biliary secretion that is most augmented, and this is particularly marked by an alteration in the colour and the odour of the fæces. All the preparations of mercury, more or less, have this influence; and patients who have, for a length of time, excreted only blackish and unhealthy looking dejections, discharge them of a yellow hue, and of a different odour, after a few grains of calomel or of blue pill. The odour is oftentimes rendered more disagreeable, and a change takes place in the gases that are developed. The colour depends upon the kind and quantity of the bile secreted by the liver; and where any obstruction takes place, the stools are pale or whitish. The bile itself is of a deep yellow brown colour, and, as Abernethy has observed, it is like wetted rhubarb; if either of these substances be put into a large quantity of water, they will dye it of a bright yellow colour, which is actually the colour of these substances, yet it is so concentrated in the mass as

to appear of a deep brown. Green bile is ordinarily the result of disordered function, although it has been occasionally found in the gall-bladder, where the liver is in a perfectly healthy state. Vegetables frequently give their colour to the fæces. The peculiar fætor of the residue of the alimentary matter is acquired in the large intestines; and if the small intestines at their termination, and the large intestines at their beginning, be examined, there will be found almost a line of demarcation. To what this is owing we are at a loss to say. It is not alone a chemical decomposition that occurs, but the animal economy imparts a peculiar change. The examination of the fæces has been but little prosecuted: although a subject of some interest, it is one that requires great enthusiasm in the cause of science, and very little delicacy in the sense of smell; nay, the very perusal of some authors' inquiries is nauseating.

Lavoisier wrote a memoir on the nature of the aeriform elastic fluids, which are disengaged from certain animal substances during fermentation; his experiments prove that human excrement emits, at the temperature of 60 degrees, a gas, a mixture of eleven parts carbonic acid gas, and one part of an inflammable gas, which burnt with a blue flame, and was, therefore, probably carbonic oxide gas; the experiments of Thenard and Dupuytren prove, however, that sulphuretted hydrogen is likewise exhaled from human fæces collected in large quantities; the changes that take place out of the body, by the action of the humid air, appear to be very rapid. Fresh fæces do not effervesce with dilute sulphuric acid, but old moist fæces do, emitting the volume of carbonic acid gas which they do at first. The chloride of mercury appears to exercise over the action of the large intestines some power, as the gaseous exhalations materially differ when it has been employed; and this is particularly striking in children, the odour of the dejection being very materially influenced in them, and much more offensive fætor being the result; and this, in general, is a proof of the due action of the medicine, for the system, previously disordered, appears thus to rid itself of a deleterious agent.

Whether the extrication of the different gases be natural to the human body, or whether it be the result of our artificial habits of life, I will not presume to say. It is stated that our living on animal food is the cause of the greater number of the diseases to which man is subject, and that it also imparts to that which is excreted from man the offensive odour: and certainly many animals that are herbivorous are inoffensive on that point, whilst carnivorous animals are the reverse; and some philosophers have entered upon some curious speculations arising out of these circumstances. Rousseau, indeed, draws a conclusion, that man is not calculated for the social state, because his excretions, his effluvia, and his emanations, are destructive to his fellow-creature. Whatever may be the means by which the inflammable air is extricated from the intestines, certain it is that great indications of the nature of the matter taken in by the mouth, and its effects upon the health, may be drawn from a knowledge of the odour evolved, and from correcting it by the administration of medicine. Disease commencing in the rectum and large intestines, may often be recognised by the quantity of flatus evolved, and unnatural diet will keep up an irritation which may prove very injurious." 109.

The work winds up with a dissertation on the injurious effects of mercury imprudently exhibited; with some most judicious rules to be observed during the administration of mercurial preparations. We think we have said enough, and exhibited sufficient specimens of this little volume, to insure it a favourable reception with all those who have not possessed the original lectures. We hope the author will pursue his researches and experiments on the vast catalogue of medicinal agents—a field most extensive, and for the cultivation of which Dr. Sigmond possesses excellent qualifications.

A TREATISE ON THE NATURE OF CLUB-FOOT AND ANALOGOUS DISTORTIONS; INCLUDING THEIR TREATMENT BOTH WITH AND WITHOUT SURGICAL OPERATION. Illustrated by a Series of Cases and numerous Practical Instructions. By *W. J. Little*, M.D. Licentiate of the Royal College of Physicians; Member of the Royal College of Surgeons; Lecturer on the Practice of Medicine and on Comparative Anatomy; & Assistant Physician at the London Hospital, &c. London, W. Jeffs, 8vo. pp. 276.

DR. LITTLE, in his preface, states in a very perspicuous and candid manner the reasons which first induced him to investigate the nature of club-foot, and the claims of the operation of Stromeyer to success. Those reasons were of the strongest nature, for Dr. Little suffered himself from the deformity and has been relieved of it by the skill of the Hanoverian surgeon.

The volume opens with an introduction of a historical character. It displays both industry and erudition, and we recommend the curious among our readers to consult it. We shall pass at once to the operation of Stromeyer, and give an account of it, and of the varieties of malformation which require it.

The method of proceeding recommended by Stromeyer in the division of the tendo-Achillis and of other tendons is given, and we give it, in his own words.

> "The operation must invariably be effected by puncture, without external incision. A very small cutting instrument should be selected—a small, moderately curved, sharp-pointed bistoury is adapted for most occasions. The limb should be extended, in order to produce the necessary projection of the tendon, when the instrument should be passed behind it, the point perforating the opposite skin; division of the tense resisting tendon being effected rather by pressure of the edge than by its slow and cautious onward movement. The skin being elastic yields to the pressure of the knife, the two punctures not exceeding its width. I have frequently divided the tendo Achillis in this manner without producing a second puncture; but this is of little moment, as two minute punctures heal as quickly as a single one. The division of the tendon is known by an accompanying sound, which can scarcely be mistaken. The performance of the operation with the point of the instrument is less to be relied on, partly from its being too weak, and also because the operator can be less certain of not causing injury to other structures in the event of the patient not remaining quiet throughout the operation..... The attempt to commence extension directly after the operation, and the endeavour immediately to restore the limb to its natural position, which will very seldom succeed, and, as the case of Sartorius proves, can only be effected by great force, is neither necessary nor advisable. The commencement of extension before cicatrization of the wound in the integuments is unadvisable even when possible, as it may produce inflammation and suppuration not confined to the vicinity of the wound; it is unnecessary, inasmuch as the tension of the divided muscle is not restored during the gradual mechanical extension applied subsequently to the healing of the wound, but occurs after the complete reunion of the tendon and after the necessary motions of the limb during exercise have acted as a stimulus to its contractility . . . . . The alteration in my method proposed by Bouvier as an improvement, viz., the replacement of the foot immediately after the operation, must, with the greater justice, be regarded as a retrograde progress, from its having constituted the plan of my predecessors." lix.

Stromeyer observes that the assertion of M. Bouvier and Mr. Whipple of Plymouth, that the extension is more painful when effected after the healing of the wound, is entirely imaginary; as the pain so produced is never referred by the patient to the divided part, but to other tissues still resisting the extension—the tibialis posticus and peronei muscles, and the posterior ligaments of the joint.

Dr. Little thinks that little real improvement has been effected in the operation since Stromeyer improved on the previous one of Delpech. Dr. Little adds, *that* the position of the patient, whether prostrate or sitting, may depend on the convenience or fancy of the surgeon—*that* the best spot for dividing the tendo-Achillis may be either an inch above the extremity of the os calcis or where the tendon is most prominent—and *that* the form of the small knife employed matters little, provided the surgeon divide the tendon by puncture, with little injury to the surrounding parts.

> "The most simple, secure, and certain mode of severing the tendo Achillis, is first to apply the edge of the knife to the anterior surface of the tendon, cutting from the deeper-seated tissues towards the integuments. The proposition to divide the tendon in an oblique direction, in order that larger surfaces may be presented for the effusion of the uniting medium, and firmer reunion of the tendon be ensured, has resulted rather from mechanical ideas of the mode of reunion of divided tendons than from practical observation or physiological reasoning. I have invariably performed the transverse division, and in every instance the tendo Achillis has united by a band as firm and large, and sometimes even larger, than the original tendon; the spot where the operation has been performed is frequently imperceptible The experiments of Von Ammon, Günther, and Bouvier, on dogs and horses, have demonstrated that reunion of tendons, by a strong ligamentous or semi-cartilaginous band, takes place, in whatever manner the division be effected, and whether the ends be maintained in apposition, or at a distance, resulting from contraction of the muscle, or even when portions are removed." lxi.

Dr. Little goes on to remark that the principal improvements have been made in the apparatus—in the more complete definition of the anatomy, pathology, and varieties of Talipes—and in the demonstration of the certainty of cure in a larger proportion of the severer forms of distortion. And Dr. L. closes his Introduction with a well-merited encomium on Stromeyer.

We quit this portion of the volume, and proceed to that which treats of the varieties of club-foot, their causes, and their management.

Dr. Little remarks that the term club-foot has been indiscriminately applied to three kinds of deformity, to which surgical writers have affixed the terms *varus, valgus, and pes equinus;* and the ordinary laconic description of their symptoms has not usually extended further than stating, that in varus the toe of the affected limb is twisted inwards, so that the patient walks more or less upon the outer ankle; that valgus is the contrary deformity, the toe being turned outwards, and the patient compelled to tread upon the inner ankle: and that the pes equinus is that state of the foot in which the individual rests the weight of the body upon the toes only.

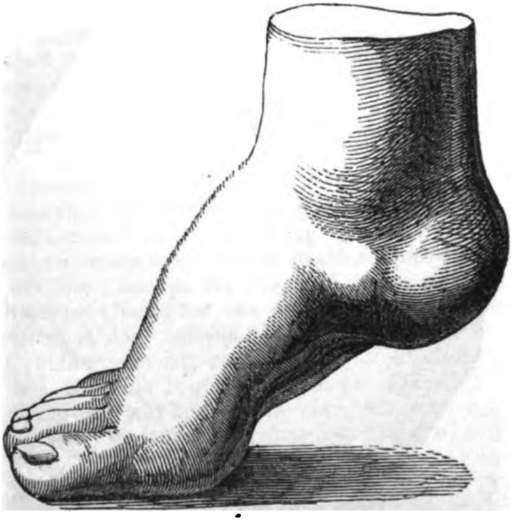
But, he continues, as surgical means of overcoming these deformities have been discovered, a more strict description of their symptoms is necessary to distinguish the cases which are fitted for operation from those which are curable without an operation, or from others which are incurable by any means.

"The nomenclature, for the same reason, has appeared to me to require some additions; the causes and varieties of deformities of the feet being numerous, the three names, varus, valgus, and equinus, are insufficient to designate them. I have therefore proposed to employ the classical word *Talipes* (hitherto applied to one species only), as a generic term, to include all those deformities of the feet produced, as will be seen, by contraction of certain muscles, to restrict it to deformities from this source; and to use the terms varus, valgus, and equinus, to designate the specific forms of these diseases." 2.

1. The most simple of these deformities is the PES EQUINUS, or TALIPES EQUINUS. It is that contraction of the limb, where the individual walks solely upon the point of the foot, upon the toes, or upon the ball of the foot; without the heel or any of the posterior part of the sole touching the earth. The heel may be more or less elevated from the ground, from half an inch to five or six inches, according to the different degrees of severity of the disease. There is also, adds our author, great variety in the manner in which the individual treads, as the weight of the body may be borne either upon the front part of all the metatarsal bones, which constitutes a pure case of Talipes equinus; or the person is inclined to tread more upon the little toe, or upon the great toe, when the deformity approaches the other forms of disease hereafter to be considered. Most frequently in such cases the ball of the little toe bears the brunt of the pressure of walking, from the toes becoming thrust a little inwards.

Dr. Little subjoins some woodcuts, illustrative of the Talipes Equinus.*

1. *Congenital Talipes Equinus in a youth aged* 14 *years.*

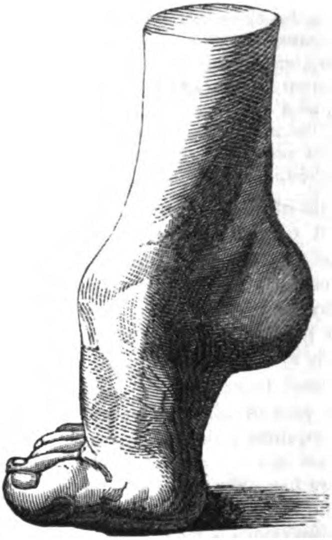


The deformity of this foot, and of every T. equinus figured in this work, appeared much *greater* in the act of walking than represented in the drawings, owing to the toes then turning a little inwards, and from the individual wearing a high-heeled boot, having a clumsy appearance.

---

* We are indebted to his kindness for the opportunity of presenting these and other woodcuts to our readers.

2. *Non-Congenital Talipes Equinus in a youth aged* 11.



2. Dr. Little proceeds to state that the most common form of club-foot is the TALIPES VARUS—that in which the patient is said to walk upon the

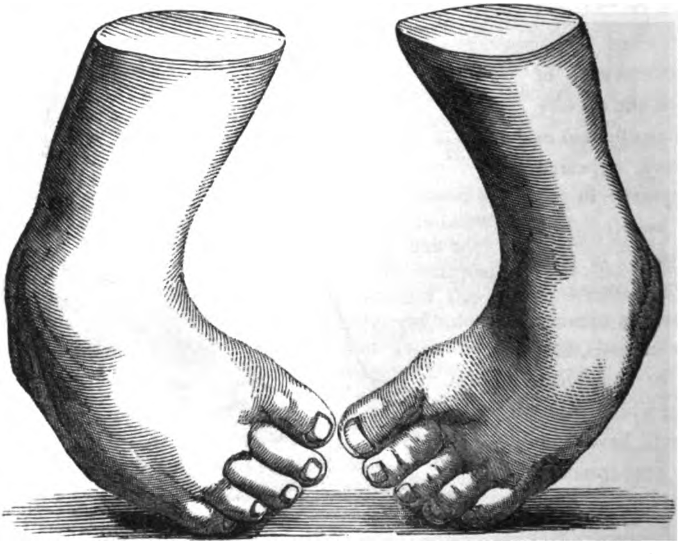


Fig. 3.—*Example of congenital T. varus affecting both the feet of a child aged* 20 *months.*

outer ankle, the toe being turned inwards. It is that deformity in which the foot from some cause undergoes a threefold alteration of its position in relation to the leg—extension, adduction, and a rotation of the foot, somewhat analogous to supination of the hand, taking place to a greater or less extent according to the severity of the disease. The heel is drawn upwards (extension), the toe is turned inwards (adduction), and the patient treads upon the outer edge of the foot only, the inner edge being raised from the ground (rotation). This threefold alteration from the natural position of the foot occasions the most serious impediment to steady or comfortable walking; and, when the disease reaches the higher gradations, the foot assumes a frightfully distorted appearance.—(See figs. 5 and 6.)

Fig. V.—*Front view of an adult congenital T. varus.* Shewing the deformity of the tarsus and the swelling (*b*) which result from the attrition to which the back of the instep is subjected; *h*, the heel; *m*, the malleolus externus. A similar deformity of both feet existed in the subject from which the drawing is taken.

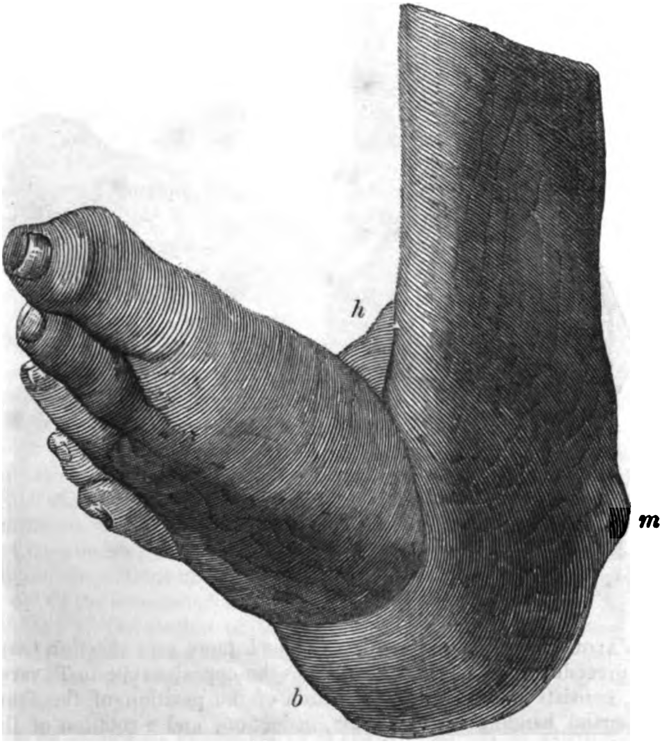
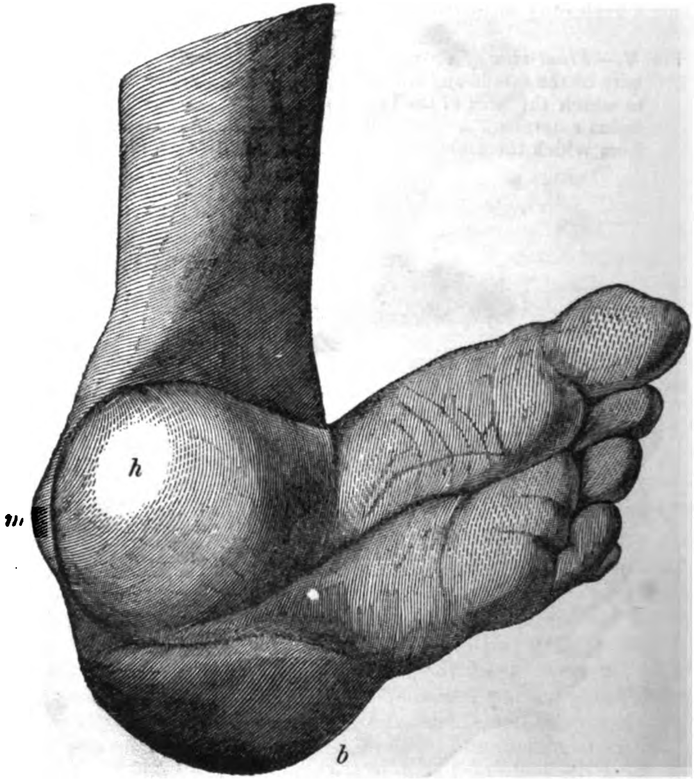


FIG. VI. *represents the same foot as fig.* 5, *in the reverse position.* In this example of the highest grade of deformity, the sole of the foot is completely vertical, instead of horizontal. The letter *h* indicates that surface of the heel which in the natural state of the foot would touch the ground, whereas it is here presented directly backwards; *m* is the malleolus externus; *b*, the tumor formed of successive layers of thickened cuticle, cutis, and thickened adipose, ligamentous, and periosteal tissues, constituting a cushion on which the patient walked. The outline of this tumor is seen to be better defined upon the posterior aspect of the foot than upon the anterior aspect.



3. VALGUS, OR TALIPES VALGUS, is a much more rare affection than either of the preceding. It may be regarded as the opposite state to T. varus, and, like it, consists of a threefold alteration of the position of the foot, there being partial bending of the ankle, *ab*duction, and a rotation of the foot; but this rotation takes place in the opposite direction to that in Talipes varus, as in T. valgus the external *edge* of the foot is removed from the ground. The rotation in a complete case of T. valgus is so great, that the patient in the act of walking does not touch the ground with any part of

the sole of the foot, but treads entirely upon the inside of the instep and upon the malleolus internus. In short, the sole of the foot is directed completely outwards and a little backwards, the ankle is held in a state of semi-flexion, the anterior half of the foot (the metatarsus and toes) not touching the ground.

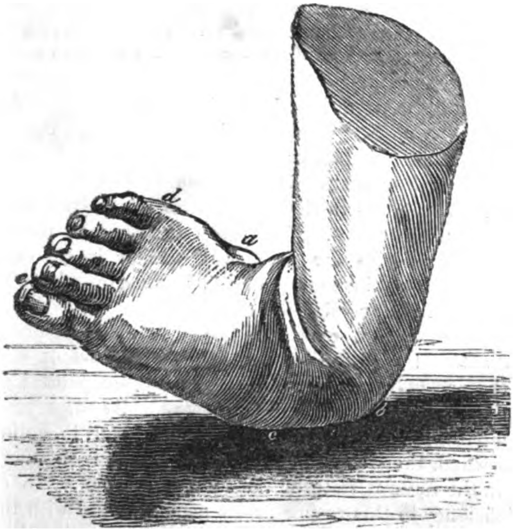


FIG. IV.—*Front view of a congenital Talipes valgus of the right foot of a boy aged four years.*

d a, the outer edge of the foot raised from the ground.

e, the great toe raised from the ground, although the internal edge of the foot is directed towards it.

b, the internal malleolus; and *c*, the internal extremity of the navicular bone; being the parts upon which the patient walked.

Dr. Little remarks that, in each of the three preceding forms of disease, the surgeon may, in cases not of too long standing, reduce the foot temporarily with his hands, and ascertain the obstacles to its natural position. In the Talipes equinus and T. varus, he will feel the tense tendo Achillis resisting his efforts to bend the ankle-joint; in the T. varus, he will, according to the stage of the disease and the state of the limb as respects the quantity of its adipose tissue, feel, and occasionally see, the contracted tendons of the tibialis anticus and tibialis posticus muscles; in both diseases he will often notice the contracted state of the whole of the muscles of the sole of the foot, and of the tendon of the long flexor muscle of the great toe; as well as the elongated condition of the tendons of the muscles on the front of the leg. The toes, especially the great, are held by them in a state of semi-extension.

" The tendons which in Talipes valgus are felt to obstruct the restoration of the foot to its natural position, are, as far as my experience has hitherto extended, chiefly those of the peronei muscles. In a case of congenital T. valgus at the age of four years (Fig. 4), which I have recently operated with success, but only the second case of true Talipes valgus which has been presented to my observation during the last two years, although more than a hundred instances of the other two forms of Talipes have passed through my hands within the same period,—the tendons of the contracted peroneus longus and brevis muscles had been felt very prominent from the time of birth. Owing to the alteration which had been effected in the relative position of the bones which enter into the composition of the ankle-joint and tarsus, the tendo Achillis deviated outwards from its usual direction, similar to the tibialis anticus in some cases of T. varus, offered a strong resistance to replacing the foot, and was consequently divided." 6.

The general condition of the limbs is similar in the three forms of Talipes. But it differs from that of a sound limb, the legs being proportionately shorter and the feet smaller. When one limb only is affected, the difference in the length of that and of the sound one varies from a quarter of an inch to four. The bones in these cases are generally shorter, and more slender than in a natural foot. The thigh occasionally participates in the shortening, and its muscles are invariably weaker in the case of a single Talipes than are those of the sound side. The muscles of the calf and front of the leg are often not one third the usual size.

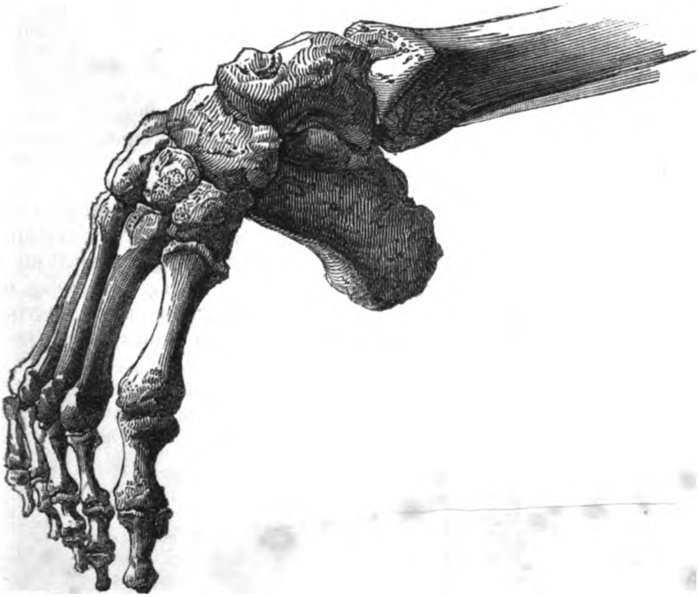
The mode of progression, continues Dr. Little, necessarily adopted by those persons afflicted with the various forms of club-foot, is not only disagreeable to the eye of the casual observer, but often painful and extremely laborious, even when only one limb is affected. By dint of long practice many are enabled to balance their bodies tolerably well in walking, although the base upon which the weight of the body is borne is so much smaller than that afforded in the natural state by the *soles* of the feet. In order to compensate for deficiency in this respect, they usually stand with the extremities widely separated, and use the arms as a means of balancing the trunk. Few, however, can take long walks, partly on account of the exertion, partly by reason of the pain. Bursæ, corns, &c. form, as we might anticipate.

Contraction of the knee is not unfrequently induced by the continued operation and contraction of the gastrocnemius. In the majority of cases of Talipes in which the knee is bent while the patient is in the erect posture, it can be straightened when he is seated, as the stress maintained upon the gastrocnemii when the weight of the body is thrown upon the toes is then removed. But on attempting to straighten the knee when erect the elevation of the heel is proportionally increased. Dr. L. has, however, treated a case where, not only was the heel drawn up several inches, but the knee was kept bent at a considerable angle in every position of the body.

Another complication, he adds, which occurs in Talipes, is an unnatural inward or outward rotation of the thigh, and consequently of the entire extremity. This arises from an inequality in the power of the adductor and rotator muscles of the thigh, and is probably an affection of those muscles analogous to that of the muscles of the leg implicated in Talipes.

Morbid Anatomy of Talipes.—Dr. Little has made numerous dissections, for the purpose of elucidating the actual condition of the parts in Talipes. Hitherto little had been done in that way.

In *Talipes Equinus* there does not seem to be, nor is there, any great deviation from the natural form and arrangement of the tarsal bones. The following is a representation of the bones of a foot affected with Talipes Equinus, and contained in the Museum of the London Hospital.



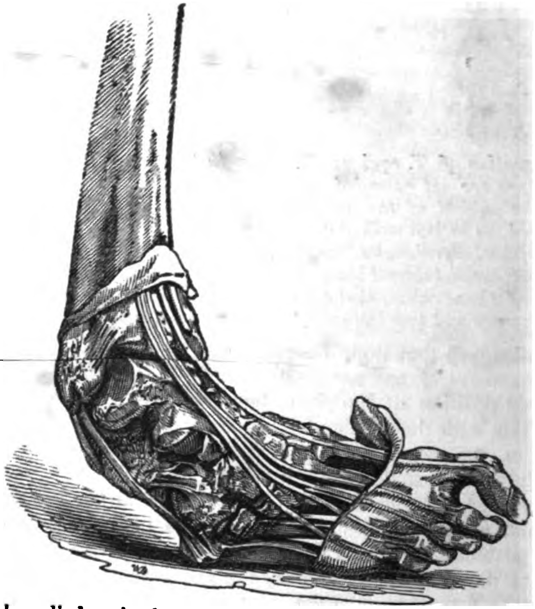
The preparation of T. equinus alluded to in the text. It will be observed that the toes are not extended as in Figs. 1 and 2. This depended, probably, on the subject of the preparation never having placed the foot to the ground, as he had walked on the knee, with the assistance of a wooden leg. It happens occasionally, however, in T. equinus, when the anterior extremities of the metatarsal bones are drawn to a great extent towards the under part of the os calcis, that the individual walks on the dorsal surface of the metatarsus and toes instead of on their plantar surface.

It will be observed that their development is imperfect, but there is no positive displacement of any particular bone. Owing, remarks our autnor, to the extended position of the foot, the surfaces of the astragalus which should articulate with the tibia and fibula are exposed upon the dorsum pedis, and, as well as the articulating surfaces of the tibia and fibula, have lost much of their natural smoothness in consequence of little or no motion having taken place between them. The os calcis, during life-time had been drawn so much upwards behind the tibia as to have touched it; owing to which a new articular surface is visible upon the superior part of the calcaneum, close to the articular surface for the astragalus. The dorsum pedis is much more convex than in a natural foot, owing to the scaphoid, together with the cuboid, cuneiform, and metatarsal bones being drawn towards the sole; hence the round head of the astragalus is exposed, instead of being covered with the hollow of the scaphoid bone, as in a healthy state.

Talipes Varus.

Dr. Little has found the alteration in the position of the bones more complicated in this than in Talipus equinus. It presents all the anatomical characters of the latter, with the addition of such as depend on the adduction and rotation of the foot. The os calcis is drawn upwards; the tibial articular facets of the astragalus and its round head are exposed upon the dorsum of the foot; but the scaphoid, cuboid, cuneiform, and metatarsal bones are not merely drawn towards the sole, but also inwards and upwards, so that the innermost point of the navicular bone occasionally touches the internal malleolus, and has an articular surface formed on it, occasioned by constant friction. The superior or external surface of the os cuboides is somewhat separated from that of the os calcis; whereas the plantar surfaces of these two bones are turned towards each other, leaving a triangular space between them externally. The course of the tendons of the muscles situated upon the front of the leg is consequently much altered. Those of the tibialis anticus, extensor proprius pollicis, and ext. long. digitorum, more particularly the first of these, are deflected so much internally, after passing over the ankle-joint, as to serve by their action to increase the deformity in the living subject.

The accompanying diagram represents the condition of the bones and tendons in a foot affected with Talipes varus. It is that of an adult female.



It may be relied on in the study of the anatomical characters of this disease; as, from the evaporation of the spirits of wine from the jar in which it had been preserved undissected, it was completely dried up, resembling the foot of a mummy. Owing to this unexpected but fortunate circumstance, I was enabled (by soaking the external part of the foot in warm water, and by subsequently removing as much of the shrivelled skin and fascia as was necessary,) to expose the bones for examination without the slightest alteration of the relative position of those of the tarsus having taken place since death.

Talipes Valgus.—Dr. Little has enjoyed only three opportunities of investigating the state of the parts in this.

> "The subjects from which the preparations were taken were full-grown fœtuses. In these, so far as the incomplete development of the osseous structures enabled me to judge, the astragalus was twisted in such a manner, that the articular facet which ought to be applied against the inside of the internal malleolus did not enter the composition of the ankle-joint, but was turned downwards; the navicular bone and calcaneum followed the astragalus, and, together with the internal malleolus, would have touched the ground by their internal surfaces, had the feet belonged to subjects who could have walked. The external edge of the os cuboides and fifth metatarsal bone and external surface of the calcaneum presented directly upwards; the latter, therefore, was in contact with the external malleolus, the prominence of which could not be felt through the skin of the foot." 15.

Dr. Little passes to the *Causes* which produce, or which maintain the deformity of Club-foot. He contents himself with stating the results of the researches of Rudolphi, Sörg, Stromeyer, and himself.

1. He first alludes to the popular (medical as well as vulgar) idea, that it is a monstrosity, a lusus naturæ, &c. and he touches on the notion which would ascribe it to a fright, a view of some similar deformity, on the mother's part, while pregnant. He reasonably attaches small faith to this.

2. "External injury to the limbs during fœtal existence—such as pressure by the parietes of the womb, or the limbs becoming entangled, and compresing each other,—is the next cause more generally admitted as the source of these deformities. But I must briefly dismiss the consideration of this alleged cause. It will suffice to inquire—even if the relatively large quantity of liquor amnii in which the fœtus is submerged did not, at the early period of uterine existence at which these deformities are to be found, oppose an effectual obstacle to the exercise of pressure upon any portion of the fœtus apart from the remainder,—how it is possible that pressure of the walls of the uterus—a mechanical cause acting from without, should affect the fœtal limbs, by disturbing the arrangement and development of certain bones and muscles according to certain invariable rules, instead of acting in an uncertain manner, as external mechanical agents always act when brought in collision with the living body." 17.

3. The circumstance, he says, which throws most light upon the nature and cause of club-foot, combined with a knowledge of the morbid anatomy of the disease, is, that it very often takes place after birth and at various ages—most frequently during childhood, from the age of a few months to three or four years; that in these non-congenital cases it presents the same inflexible and essential characters as the congenital affection.

A child, he continues, during the progress of dentition, is observed "slightly to drag one leg," or may have a little limp in his gait, depending, although the cause may be overlooked, on a slight rigidity or contraction of the muscles of the calf, and consequent stiffness or inability of completely bending the ankle-joint. The former case arises from partial paralysis of some of the muscles of the leg, usually those situated on the front, denominated flexors of the ankle-joint; the latter from inordinate or spasmodic contraction of other muscles, usually those on the back of the leg, the so-called extensors of the foot. The disease, from whichever of these two causes it may arise, advances unchecked by *medical* treatment, and the result is the same, the heel being permanently raised from the ground, constituting Talipes equinus; or the toe being drawn inwards at the same time, producing Talipes varus.

In other cases, a child exhausted by illness, or during an attack of spasmodic croup has " a fit," which is succeeded by the loss of one or of all his limbs. This loss of the use of the limbs is of two kinds—*paralytic*, in which case it is very often paralysis of some or all of the muscles of one side, but most commonly paralysis of one or both of the lower extremities; or it arises from the seizure of some of the muscles of the extremities with involuntary, tonic contraction—*spasmodic* loss of the use of the limbs. Again, this spasmodic affection of the muscles may affect even the trunk, in addition to the limbs, giving rise to deformity of the spine. Sometimes the loss of the use of the limbs has occurred during the comatose stage of fever; and on recovery, the inability to stand or walk is very reasonably attributed to general debility. But whilst " strength " may be recovered in every other part of the frame, the patient continues unable to place the heel or heels upon the ground (T. equinus), or that symptom is conjoined with a turning inwards of the toe or toes (T. varus). Dr. Little has seen one and only one instance of Talipes valgus, occurring under such circumstances.

> " The lameness, whether arising from paralysis of some of the muscles, or from the involuntary contraction of others, is usually accompanied with a diminution of the entire vital energies of the limb, which proves that the organic system of nerves has also suffered—its temperature is often below the natural standard; the muscles either waste, or, with the bones, cease to grow as rapidly as those of a sound limb; the ligaments even do not evince their proper firmness—for instance, the knee, provided none of the muscles of the thigh be affected with spasm, admits of more lateral motion than in a natural state. Talipes is not only produced in persons of a tender age, but likewise at a later period of life, and even after the age of puberty, in those whose nervous system is equally susceptible of disease. I have witnessed the formation of perfect cases of club-foot,* through spasm of the gastrocnemii and anterior and posterior tibial muscles, in hysterical young women, who had previously enjoyed the perfect use of their limbs." 21.

Dr. Little examines, a little more in detail, these non-congenital contractions of the feet. He takes, *first*, a case originating from paralysis of the anterior tibial muscles. Some lesion of the nervous centre in communication with their nerves, induces the paralysis in question. The posterior muscles of the leg (those of the calf in particular) having lost their natural antagonists, become firmly and permanently contracted, by the constant action of their involuntary contractile power, by which the heel is raised from the ground, constituting Talipes equinus. At an early period of the disease, this contraction may be overcome by forcibly bending the foot with the hand; but this after a time becomes impossible.

---

* " Can so unclassical a term be applied to a disease of a limb occurring in a young adult female? and if not, need we, in order to designate the congenital cases, longer use a term which persons of nearly every class appear disposed to repudiate?"

"The other case, that of a Talipes originating from spasm, admits of a different explanation. The remote cause resides either in the central organs of the nervous system (most probably in the spinal marrow), or it is a disease existing in some other organ of the body, affecting peripheral parts of the nervous system; for instance, in some one of the viscera of the chest or abdomen, more probably of the latter. From this an injury is propagated to the central organ, and is reflected to certain muscles of the leg, which become spasmodically contracted. In other words, there may be either some deviation from the healthy state in a part of the spinal marrow, where the roots of the motor nerves distributed to the muscles of the calf are implicated or irritated, causing them to become involuntarily contracted; or there may exist elsewhere some disease, such as an irritation of the mucous membrane of the alimentary canal by improper or undigested food or worms, through which filaments of nerves (named by Dr. Hall *incident)* are excited. These communicate in the spinal cord with other filaments—the *reflex*, or involuntary motor nerves, whereby the muscles of the calf are excited to spasmodic action." 22.

In the Talipes varus, the paralysis or spasm affects a larger number of muscles. When paralysis is the cause, the peronei muscles have lost their power, as well as the anterior tibial and long extensor muscles of the toes. If spasmodic contraction be the cause, the posterior tibial muscle, long flexor muscle of the great toe, those of the sole of the foot, and sometimes the tibialis anticus muscle, are partially involved in the production of the deformity.

Contraction of some of the muscles of the arms occurs, after birth, not unfrequently, and arises from the same causes as have been enumerated. Dr. L. has met with two cases unaccompanied with pedal contraction, and he has treated several in which they were conjoined.

Other causes besides those enumerated, which produce a shortening of the muscles and other soft parts upon one side of the leg, by disturbing, although in a different manner, the antagonism of the muscles, are capable of producing deformities similar to those belonging to the genus Talipes. Dr. Little has had under his care two examples of the ankle joint rigidly fixed in the extended position; in one instance the heel having been raised three inches, and in the other from five to six inches, in consequence of the contraction of numerous cicatrices on the back of the leg, resulting from the healing of abscesses, accompanied with loss of substance through sloughing and necrosis. Another cause of the shortening of the muscles on the back of the leg arises from the long confinement of patients to bed, during the union of some kinds of fractures, or during the reparation of other injuries. Dr. L. has also met mith a case of permanent elevation of the heel produced by the ankle-joint having been too tightly secured by mechanical apparatus, and continued too long in the extended position, for the union of a ruptured tendo Achillis. The contraction had also been increased by the patient having worn high-heeled shoes. Dr. Little quotes an observation of Dr. Stromeyer's, *that* rupture of the tendo Achillis is an accident too much meddled with. He deems the application of the slightest bandage, for the first few days, sufficient. We are inclined to believe this is falling into an extreme laxity. The cases that we have seen of ruptured tendo-Achillis* have proved rather troublesome.

---

* Rupture of some fibres of the Gastrecnemius is more common.—Eds.

"Having thus offered my opinions of the causes of those deformities of the feet which take place after birth, and stated the identity of their symptoms and morbid anatomy with those of the club-foot with which children are born, the probability will, I think, appear obvious that the remote causes are the same: but there are other phenomena connected with the history of these affections which render the accuracy of these opinions almost capable of demonstration. Fœtuses which have suffered some evident derangement in the development of the nervous system, such as those denominated hemicephalous and acephalous, or affected with spina bifida, and those born before the expiration of the natural period of utero-gestation, are particularly obnoxious to this deformity of the feet. The occurrence of the perfectly analogous deformity of the hands which takes place prior to birth, denominated club-hand, in which the flexors and pronators (analogous to the so-called extensors and adductors of the foot) are likewise contracted, corroborates the opinion that congenital club-foot depends on spasmodic musular contraction. In the instances which I have examined, of congenital deformity of the hand (club-hand), both in museums and in the living subject, the feet were also affected with Talipes, proving the operation of a common cause. Other circumstances corroborative of this opinion, are the co-existence with congenital club-foot of congenital squinting, and even congenital stammering or mis-enunciation,—diseases which evidently depend either on the increase of the involuntary or the decrease of the voluntary motor powers of the orbital and laryngeal muscles.

The importance of these facts is increased by the observation I have made, that non-congenital club-foot is likewise occasionally accompanied with strabismus." 25.

Before we pass to the treatment of Talipes, we must introduce, from the Appendix to the present work, a notice of another form of the disease, which our author has designated *Talipes Calcaneus*. What account he furnishes, is contained in the history of a case.

Case.—Nov. 1838. Miss * *, aged four and a half years, is stated to have been born with a perfect condition of the feet, but was observed, soon after learning to walk, to have acquired considerable lameness of the left foot, apparently from weakness. The thigh and leg decreased in thickness, the muscles became lax, and the temperature diminished. She gradually discontinued treading on the entire sole, the heel principally receiving the weight of the body, and the front part of the foot becoming elevated. At present, when the patient is seated and the limb is at rest, the foot is distorted in the manner represented fig. 39, its anterior part being elevated to the utmost extent, from contraction of the anterior tibial and extensor muscles of the toes, the long axis of the os calcis being situated perpendicularly beneath the axis of the leg, and the posterior surface of the heel touching the ground instead of its inferior surface: in short, the foot is involuntarily flexed to the fullest extent. No inequality in the elevation of either edge of the foot exists. The tendons of the anterior muscles of the leg are felt tense and prominent; the tendo Achillis, on the contrary, can with difficulty be discovered, so flattened and attenuated has it become from the constant elongation to which it has been subjected; its relation to the deeper-seated muscles is also considerably changed. Instead of the existence of a considerable space between these muscles and the tendo Achillis, the latter extends like a thin tape towards its insertion, being closely applied to these muscles and the posterior surface of the ankle-joint—the result of the os calcis being placed almost perpendicularly beneath the tibia, instead of horizontally or obliquely.

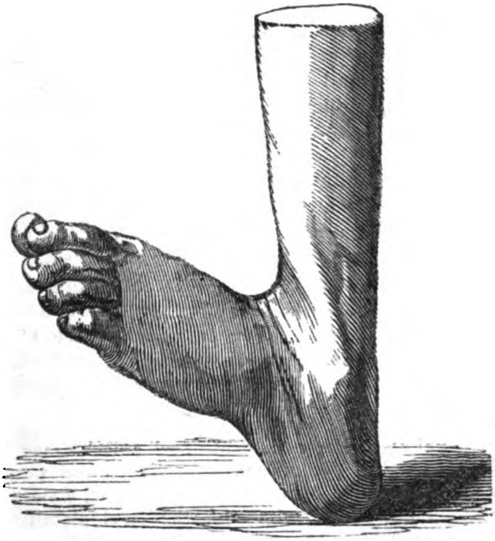


Fig. 39.—*Talipes calcaneus in a child aged four years and a half.*

Dr. Little observes, in reference to the treatment of this case:—

"As the patient was able to walk without any considerable difficulty, weakness and an occasional tendency to fall being the chief inconvenience of which she complained, and the foot being by pressure easily reducible to the proper form, indicating the absence of structural shortening of the anterior muscles of the leg, I did not consider division of their tendons advisable, but recommended the wearing of a boot furnished with a thin steel support on one side, so constructed as to maintain the foot bent to a right angle only, and cause her to tread equally on the entire sole." 264.

The boot has completely answered the purpose intended, as she treads equally on the entire sole, and walks without the appearance of lameness. The application at bed-time of a tin splint, constructed so as to maintain the foot in the extended position, has been recommended, in order to prevent contraction of the anterior muscles of the leg during the night.

We now proceed to the—

Treatment of Talipes.

Dr. Little does not propose to embrace all the minor and more circumstantial features of management, but he states the principles to be followed in every case.

Hitherto, he observes, the deformity has been too often regarded as simply a physical alteration of certain parts of the limb; certain tendons or muscles have merely been considered as too *short*, and the bones of the tarsus deformed, or, in the worst cases, unnaturally jumbled together: consequently a mechanical plan of treatment best accorded with these ideas of the pathology of Talipes, it being considered that no contracted living tissue, such as a wasted muscle or "*shortened tendon*," could long resist the operation of a well-applied mechanical power, properly adapted to elongate the contracted parts. Experience has proved this opinion to be erroneous. Each case must be treated in reference to its nature, and the nature of each must form a special subject of investigation.

Thus, if Talipes originates after birth in paralysis of the anterior muscles of the leg, the surgeon should treat that on the same principles as paralysis of any other part of the body. If the case proceed from active permanent, and involuntary contraction of the muscles of the calf, or the other muscles of the foot, producing Talipes equinus or T. varus, he will, as in the treatment of paralysis, direct his attention to the central organs of the nervous system, the brain and spinal cord, and search for the remote disturbances in the chylopoietic or other viscera. Mechanical means are, at the same time, necessary to prevent the muscles from becoming affected with structural or organic shortening, and manipulation, friction, and proper apparatus are to be employed.

> "Even a congenital case, where the contracted muscles may be elongated by the hands, and the foot thus placed nearly in its natural form, should from analogy be treated in the same manner. I have treated a child who had never walked (of the age of two years and a half when first placed under my care), born with spasm of some of the muscles of the eyes, of the spine, of the adductors of the thighs and muscles of the calf, producing squinting, partial opisthotonos, rotation inwards of the thighs, and double Talipes equinus. The whole of these affections, with the exception of the strabismus, have been almost entirely removed by the use of ferri sesquioxydum, laxatives of hydr. c̄. cretâ, with pulv. rhei. and long-continued extensive counter-irritation to the spine, with the addition of frictions and manipulations." 27.

There are many cases both of congenital and non-congenital Talipes, in which medicine is unnecessary, either from subsidence or hopeless inveteracy of the paralysis or spasm, and where there remains only an inconsiderable *structural* shortening, although accompanied with great deformity. These cases may be cured in the space of a few months, without relapse, by means of mechanical treatment alone.

> "If, however, either in congenital cases, in consequence of the affection of the muscles having occurred at an early period of fœtal existence; or in non-congenital cases, from the deformity having continued unchecked for too great length of time,—structural shortening of the contracted muscles have taken place, which is usually ascertained by the inelastic rigid nature of the contraction of the muscles, the tendons of those muscles which resist the restoration of the foot to its proper form, must, provided that there be no accidental displacement or deformity of the bones, or ankylosis, be divided by the knife, in order to obtain a cure.
>
> In most cases of Talipes equinus, and in many of T. varus, which require an operation, the tendo Achillis only is required to be divided; in other cases of Talipes equinus I have sometimes found it necessary likewise to divide the tendons of the tibialis posticus and flexor longus pollicis muscles. In severe long-standing cases of Talipes varus the section of the tendons of the anterior tibial,

posterior tibial, extensor proprius and flexor longus pollicis muscles is requisite, in addition to division of the tendo Achillis, in order to facilitate the restoration of the foot to its natural shape and position. The case of congenital Talipes valgus already mentioned will indicate the parts which it may be found necessary to divide in that form of disease." 28.

Dr. Little insists on the principles laid down by Stromeyer, in reference to the operation. Those principles are as follows:—

The tendons of the muscles which maintain the deformity should be divided with as little injury as possible to the skin and neighbouring parts.

No attempt should be made to force the foot into its natural shape immediately after the operation; but the necessary extension for that purpose should be commenced as soon as the external puncture or punctures are completely healed: this occurs about the second or third day.

The lymph which is effused between the ends of the divided tendon or tendons, with the muscles that are not divided, and the ligaments and fasciæ which may impede the replacement of the foot, must be gradually extended until the foot assumes its natural shape, and the ankle can be bent to its fullest extent.

The application of the apparatus by which extension is effected must be continued for a certain period after the cure, notwithstanding that the patient has been enabled to stand firmly, and has improved in walking, in order to obviate the tendency to contraction evinced by the intermediate substance or lymph effused between the ends of the divided tendon.

Dr. Little states, with justice, that the safety of the operation hinges essentially on the small size of the puncture, and the speedy healing of the wound. Dr. Little has used a small, curved, sharp-pointed bistoury, having a concave edge, the cutting part of the blade seven-tenths of an inch in length, and the greatest width one-tenth of an inch. On the whole, however, he finds that a knife with a straight or slightly convex edge is preferable to one too much curved or too concave: but, provided the operator possess ordinary dexterity, the form of the knife which he uses will be of but little consequence.

He performs the operation thus:—

The patient being seated, an assistant supports the knee, whilst another, drawing downwards the patient's heel with his left hand, and pressing upwards the toes and front of the foot with his right, produces the necessary tension in the tendon proposed to be divided. The operator, after feeling the outline of the tendon with the left fore-finger and thumb, passes the bistoury through the skin, one or two fingers' breadth above the malleolus internus, with one of its sides turned towards the tendon, and the other directed towards the deeper muscles and the tibial vessels and nerves. On being satisfied that the point of the knife has been passed beyond the external edge of the tendon, and has nearly reached the skin of the opposite side, the knife is turned so as to bring the cutting-edge to press against the anterior surface of the tendon, which is then divided by the action of withdrawing the knife from the limb, and commonly by a single stroke. The complete division of the tendon is known by the immediate cessation of the tense resistance, by hearing a distinct snap, and by feeling, before the knife is wholly withdrawn, that nothing remains undivided except the flaccid integuments. The operation does not occupy a quarter of a minute, and is almost bloodless, as usually not more than a single drop of blood is effused.

"The division of the tendon of the posterior tibial muscle is, in my opinion, best accomplished at the distance of two or three fingers' breadth above and behind the internal malleolus. The point of a strong and straight bistoury should be introduced through the skin at the outer edge of the tendon, and passed between it and the tendon of the long flexor of the great toe, directed towards the tibia. As soon as the knife reaches the bone, the handle should be depressed outwardly, and the point carried internally beneath the posterior tibial tendon, and continued onwards until the surgeon is satisfied that the point has passed beyond the inner edge of the tendon. He may then feel that he has the tendon upon the edge of the knife, when by a few slight cutting motions he may divide it without difficulty. No snapping sound, similar to that which follows the division of the tendo Achillis, is heard when the section of the posterior tibial tendon is accomplished; as the fleshy fibres of this muscle take their origin so low towards the malleolus internus, that they prevent the occurrence of any considerable retraction of the superior end of the tendon.

The most favourable situations for dividing the tendons of the tibialis anticus and flexor longus pollicis muscles, are where the former passes in front of the ankle-joint, and where the latter is felt most prominently in the sole of the foot, in those cases where division is required. The manner of dividing each of these tendons is to pass the point of a bistoury through the integuments, and then with great care beneath the tendon, avoiding to carry the knife farther than is absolutely necessary, and dividing the tendon from within outwards, in order not to endanger any of the neighbouring structures. The recoil of these muscles, on their tendons being divided, is distinctly felt and heard. If they be thus cautiously divided, no risk is incurred of injuring the anterior tibial, posterior tibial, and internal plantar arteries, or any of the nerves. The wounds made in the integuments are extremely small, and unite by adhesion; consequently all chance of suppuration and sloughing is avoided." 31.

After either of these operations, a strip or two of sticking-plaister, and a wooden or a pasteboard splint, intended to keep the foot in its *deformed* position, are to be applied.

"The apparatus to which I resort for the necessary extension of the limb, is the foot-board invented by Stromeyer (fig. 13), and another apparatus (fig. 14), constructed in some respects upon the principle of that described and represented by Scarpa in his work upon the cure of these deformities. The original instrument of Scarpa, although highly valuable in affording one of the principles upon which a correctly adjusted and efficacious instrument for the cure of these contractures must be made, was entirely defective in providing means for drawing the heel downwards. This Scarpa anticipated would gradually take place when the patient walked, the tendency of the toe to turn inwards being at the same time obviated, and the foot maintained securely in a favourable position by his apparatus. Stromeyer added several improvements to Scarpa's instrument, from which, in addition to my experience and numerous private suggestions received from him, I have profited, by a different adaptation of the screw to act upon the ankle-joint, and by altering the arrangement of the straps. The mode of applying Stromeyer's foot-board and the latter apparatus will be understood by an examination of the figures. The former is most useful in the treatment of Talipes equinus, although it may be resorted to in those cases of T. varus which have not attained the more advanced stages of the deformity. Its especial utility in T. varus arises from the very ingenious contrivance of the foot-part, which may be rendered more or less oblique, and thus accommodated to the obliquity of the sole of the deformed foot.

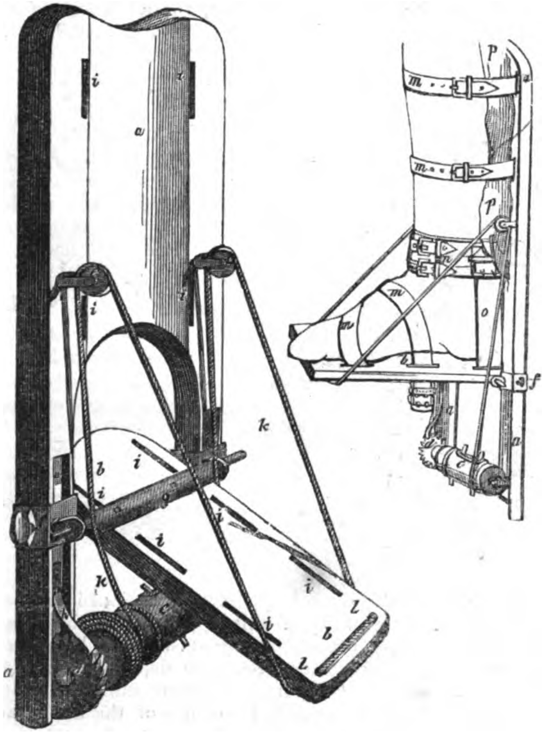


Fig. XIII.—View of Stromeyer's foot-board for the treatment of Talipes equinus and varus after the division of the tendo Achillis. It can be applied to the right or left leg, according to the circumstances of the case. The smaller of these figures represents a foot which had been affected with Talipes equinus, (such as is seen in fig. 2,) nearly restored to its natural degree of bending at the ankle. The angle formed by the foot-piece (*b b*) of the apparatus with the leg-piece (*a a a*) can be increased or diminished by turning the windlass (*c*) forwards or backwards, and by that means loosening or tightening the cord (*k k*), which, after passing through the holes (*l l*) of the foot-piece (*b b*), and over the pulleys (*e e*), is fastened to the windlass. The foot-piece of the apparatus can be rendered oblique by turning the thrumb-screw and loosening the slide (*f*) through which the axle (*g*) passes. The spring (*h*), which is received between the teeth of the cog-wheel (*d*), prevents the windlass from turning backwards, except when the surgeon purposely raises it. The double row of fissures (*i i i i i*) are for the passage of the straps (*m m o m m*) by which the foot is secured in the desired position; *p p* marks a cushion placed between the leg and the apparatus.

The second apparatus serves for the treatment of a greater variety of cases, either of T. equinus or T. varus, whether or no the operation of dividing any tendon be deemed requisite. It has, moreover, the advantage of enabling the patient to walk with less difficulty during the process of cure." 35.

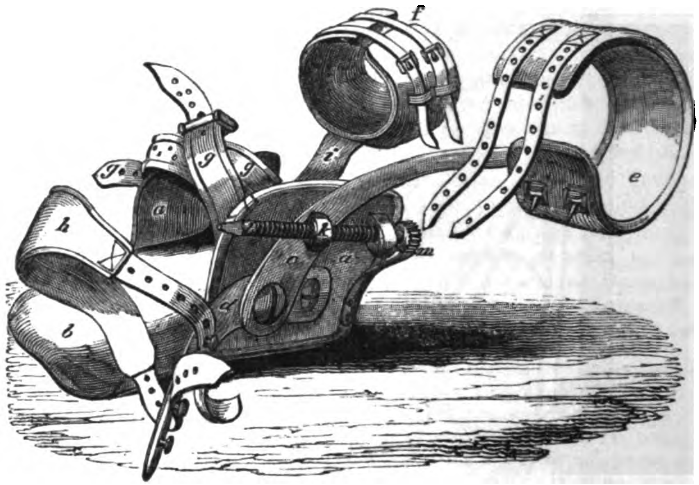


FIG. XIV. represents the second apparatus mentioned in the text, made for a left foot. The utility of this apparatus in the cure of T. varus exceeds that of any other instrument which I have resorted to or found in use by others. Its superiority depends upon the application of an elastic power for the purpose of overcoming the resistance of the adductor muscles, the internal ligaments of the ankle, and the contracted tissues on the inside of the foot, instead of relying solely upon the inelastic pressure of screws and straps. The elastic property of steel springs, by the constancy of their action, approaches somewhat to the nature of the contractility of animal tissues, and is capable of effecting the elongation of contracted muscles or ligaments with more readiness and less tightness of the apparatus than a greater amount of the pressure of screws, straps, and bandages, which, in opposition to the elastic pressure or traction of the spring, may be called *dead* pressure. This apparatus is calculated to overcome the threefold alteration of the position of the foot which characterises Talipes varus; and by substituting an unpright firm bar of steel for the spring *c*, is well adapted to cure Talipes equinus, whether or no any operation be necessary.

The letters *a a* and *b* designate a shoe formed of iron, covered with leather, and well padded with horse-hair; *c* is a steel spring, which, by means of the padded strap *e*, is worn upon the outside of the leg; *i* and *f* shew a strap and bandage to go round the ankle, by which the heel is held securely in the shoe. The straps *g g* hold the heel firmly towards the inside of the shoe, whilst the short spring *d* draws the toes and front of the foot outwards, by means of the padded strap *h* passed round it. The screw *l*, which moves through a female screw *k*, (itself fixed as a rotatory rivet to the spring *c*,) acts upon the ankle-joint, and enables the surgeon to bend it as rapidly or as gradually as he may please. In cases where the tendo Achillis has been divided, the

After the healing of the wound, Dr. Little recommends great caution in the mode of applying the extension, &c. The skin should be protected from friction and uneven pressure by the application of an elastic cotton-web bandage, and by filling up with wadding those inequalities of the surface of the tarsus which arise, in many instances, from unequal projection of the bones.

In many cases, says our author, the slightest pressure exercised by the instrument will suffice to overcome the deformity without producing pain, provided attention be daily paid, and the straps and screws be tightened whenever they become loosened by the progress which the foot makes in the required direction. In other subjects, where the resistance is greater, more pressure is required, accompanied by a greater degree of pain; but the surgeon must not always expect to restore the foot rapidly to its natural position, nor must he proceed with any thing but gentleness and caution. He must avoid, so far as can possibly be done, the production of excoriations, sloughing, &c. which might seriously retard or altogether prevent the success of the operation.

> "Occasionally the pain in the sole of the foot, produced by the pressure requisite to bend the ankle-joint, is intolerable: I can well appreciate the amount of suffering thus occasioned, having experienced it to a great degree in my own case. After witnessing in many patients the distressing pain felt in the sole of the foot when the form of the bones, or corns, caused particular parts of the sole to be disproportionately compressed, about two years since, at the suggestion of Mr. Robert Davey, of Great Ormond Street, I placed an air-cushion between the sole of the foot and the foot-piece of the apparatus, in order to produce an equal distribution of the pressure over the whole of the sole. The pain was instantaneously relieved; and I am indebted to the use of the air-cushion for the comparatively little pain with which the cure of numerous cases has been attended." 36.

Of course, particular cases will demand particular modifications of the

use of a screw for bending the ankle-joint is less objectionable than any similar inelastic power would be were the tendon intact. The greater part of the resistance to *bending* the foot is removed by that operation; but as the active causes of the *adduction* and the *rotation inwards* of the foot, analogous to supination of the hand, remain, the springs, by being braced up against the foot and leg more or less tightly, according to the exigencies of the case, tend constantly to regain the form which they have when unshackled by the straps, and thus gradually overcome the contracted muscles and ligaments, and draw the deformed foot in two directions opposed to the deformity—those of abduction and rotation outwards. If the surgeon, acquainted with the anatomy and pathology of Talipes varus, will put his sound foot into one of these instruments, and endeavour whilst his foot is there to give it the form of T. varus, he will feel how strongly the springs oppose his attempts; in fact, he will be convinced that if he wore the instrument sufficiently long, his sound foot would be converted into a deformity resembling the opposite of T. varus, namely, Talipes valgus. It is at the point intermediate between these two diseases that the practitioner must stop in the treatment of the former—at the position of the foot intermediate between adduction and abduction—at the point corresponding to the natural position.

apparatus. In children, the treatment may be interrupted by the occurrence of the maladies to which they are particularly prone. It will be an object not to lose the ground that has been gained.

The apparatus which Dr. Little has used for the treatment of Talipes valgus is similar to the second instrument described for the cure of T. varus (fig. 14,) with this difference only, namely, that the springs, which in the latter case, are placed upon the outer side of the limb, are required in T. valgus to be worn upon the inner side.

Dr. Little takes care to point out that the extent of external deformity of the foot does not determine the length of time necessary to effect a cure; other circumstances exercise a much greater influence in this respect. One of the most important is the degree of alteration from the natural shape and position which the individual bones of the tarsus have undergone, produced either by the occurrence of the disease at an early period of the development of the embryo, when the bones were yet soft, by the wearing improper instruments, or walking with the foot in its deformed shape, and thus injuring the bones by attrition against the earth. The shortened condition of some of the ligaments of the ankle in T. varus and equinus, particularly the ligamentum deltoideum, and the ligaments of the under surface of the tarsal arch, are serious difficulties to be overcome in long-standing cases. Those muscles of the sole of the foot which it is inexpedient to divide, and which, in some cases of T. varus and equinus, draw the anterior extremities of the metatarsal bones backwards (towards the posterior tuberosity of the os calcis,) for a lengthened period resist our endeavours to stretch them.

Dr. Little admits that there are some cases of T. varus and equinus where, after division of the tendo Achillis and healing of the puncture, the foot might be at once restored to its natural position; but to avoid any interference with the reunion of the tendon, he prefers the gradual replacement of the foot. And he adds:—

> "In the average of cases of club-foot, whether congenital or otherwise, two or three weeks elapse after the operation before sufficient bending of the joint is obtained; previously to which, however, the patient is allowed to walk, wearing the apparatus: after the expiration of another fortnight, the greater part of the tenderness of the ankle-joint, produced by the stretching of the ligaments, subsides. By this time the union of the tendon has acquired sufficient firmness to allow of walking and exercise in the open air. In the greater number of cases, particularly in children, the ankle-joint requires to be supported by a modification of the instrument used to effect the extension, or by one or two thin steel springs, or pieces of whalebone, sewn between the outer leather and the lining of the side of a lace-up boot. Some time elapses before the gait of the individual acquires the ultimate perfection of which it is susceptible. Children advance more slowly in this respect than adults, as they limp if they feel the least uneasiness, and cannot take so much pains with their manner of walking. I have had many adult patients who, within two months after the performance of the operation, have walked several miles, and have had but little appearance of lameness. I have, however, treated one very bad case of adult congenital T. varus, which was under my care for nine months,—that of a gentleman who had walked from infancy without the slightest mechanical support, and whose foot had consequently reached a frightful stage of deformity; but the ultimate success, notwithstanding the attendant difficulties, enables me to refer to this case as a triumphant proof of the advantage of the Stromeyerian method of cure." 39.

We shall here take leave of our author and the subject. We quite agree with him that the operation of Stromeyer, and its modifications, constitute a very important improvement in the practice of surgery. The deformities that they relieve are numerous and afflicting—the relief that they afford considerable—and operations of this character, are, perhaps, a greater boon to humanity than some of greater pretension and of less extensive application.

It only remains for us to express our good opinion of the manner in which Dr. Little has performed his task. His book will prove a very useful one, and we recommend it in strong terms to the profession.

OBSERVATIONS ON THE CLIMATE OF NEW ZEALAND. By *W. Swainson*, Esq. Octavo, pp. 80. Smith and Elder. 1840.

THE tide of emigration, from the mother country to various remote regions, now runs so strong, that medical men are daily called upon to give information as to the climates of those countries to which so many of our countrymen and women are forced to expatriate themselves, from the difficulty they experience in retaining *caste* in the social scale. This difficulty is well known to depend on exuberance of population, and its inevitable consequence, paucity of eligible occupation. The current of colonization has recently set strong towards New Zealand—a country which, from its insular character, climate, and fertility, is calculated to become a valuable addition to British dependencies.

The improvement of human life, as to duration, has added to the difficulties of providing for our offspring! One hundred years ago, the deaths were about four per cent. of the population. They are now about two per cent. Or, in other words, the probability of life has doubled in a century. This amelioration can have had but little connexion with climate—for in this respect there could not have been any material change in England during the last century. But still climate must have considerable influence on man, especially as to the production of certain diseases, as phthisis for instance. The mortality resulting from this disease is computed to be about 25 per cent. in England, Austria, Prussia, Switzerland, and Belgium—23 in France—17 in St. Petersburg and New York—while in some parts of Africa, the disease is almost unknown. There can be little doubt that *early* removal to a climate free from great and sudden vicissitudes of temperature, has, in many instances, arrested or retarded the progress of tubercles. In most of the countries, however, to which our phthisical invalids are sent, the disease is as frequent as in England.

" Assuming the accuracy of our information, and comparing their several mean temperatures, the climate of the southern coast of England, in the most essential qualities, is not inferior to that of any of the most celebrated places of resort in Europe. The mean temperature for the whole year is certainly somewhat lower, and its vicissitudes may be more frequent in England; but what is, perhaps, more important, these vicissitudes are more limited in their range—

the general temperature is more *equable*. The temperature is highest in Devonshire and Cornwall, the annual mean being 52° 50′; in the Winter, 44° 50′; in the Spring, 49° 60′; in Summer, 60° 50′; and in the Autumn, 63° 50′. While in the northern counties the mean for the year is only 47°; Winter, 37° 50′; Spring, 44° 50′; Summer, 59° 50′; Autumn, 48° 65′.

In variability and uncertainty, so far at least as is indicated by thermometrical observations, the advantage is decidedly in favour of the climate of the more favoured parts of England. At Penzance, and along the coasts of Cornwall and Devonshire, the mean *range* during the twenty-four hours is only 8°; while at Naples, the daily range is 13° 5′; at Rome, 11°; at Montpelier, 12°. It varies also considerably with the season of the year; being much greater in England in June than in January.

The annual *range* of the thermometer in the south-eastern division of the kingdom is about 67°, and still more limited in the south-west coast, being little more than 50°; but even in the former, considerably less than in Nice, Naples, and the most reputed continental places of resort." 19.

" But the difference in favour of England appears most striking, when we compare the mean temperature of their coldest and hottest months, which in Cornwall is only about 18°, almost double in the South-east of France; 31° in the South-west of France; and 32° in Italy. We cannot be surprised, therefore, at the condemnation of the South of France and the North of Italy, by Crichton, Portal, Morgan, Hawkins, and Johnson. In point of general salubrity, there can be no comparison between those parts of the Continent usually resorted to, and our own country. The duration of life in the least healthy districts of England exceeds considerably that of the most favoured parts of the Continent, and that very disease, once considered almost peculiar to this country, being in fact no less prevalent in the latter than the former. In the time of Celsus even, we find a removal *from* Italy recommended. 'Quod si mali plus est, et vera phthisis, inter initia protinus occurrere necessarium est; neque enim facile is morbus cum inveteraverit, evincitur. Opus est si vires patiuntur, longa navigatione, cœli mutatione, sic ut densius quam id est ex quo discedit æger, petatur: idioque aptissime Alexandriam ex Italia itur.'" 20.

As tubercular disease is nearly unknown in Egypt, the general character of the climate becomes a matter of interest. It has been described by competent authority, to be at all times extremely damp (at least about Alexandria)—the atmosphere being saturated with saline vapour, which condenses on the walls of the houses in small crystals of nitre, common salt, and muriate of ammonia. The soil is everywhere coated with these saline particles, yet the constant breathing of such an atmosphere does not appear to injure the constitution. It is asserted that no instance of consumption has been seen among the Arabs.

In the Channel Islands phthisis is believed to be much less common than in England—and the peculiar dampness of these islands is very similar to that of Alexandria.

" Besides its insular position (says Dr. Scholefield) the island of Jersey is everywhere thick-set with wood, an imperfect system of drainage or no drainage at all, the prevalence of winds from the south-west blowing directly up the channel, from across the Atlantic Ocean, impregnated with moisture and with saline particles that cause the moisture to be more slowly dissipated into vapour, the great secession of the tide at low water, leaving all around the island a vast extent of bare rocks and sands, from which saline vapours largely arise, in consequence of the comparative warmth of the temperature even during the Winter months, while these vapours are scattered in all directions by currents of air arising from the great diversity of the island in hill and dale." 21.

With reference then to the influence of climate, in the temperate zone at least, it would seem that the circumstances which characterize their antiphthisical qualities are a mild equable atmosphere—or limited in its range—holding in suspension a considerable quantity of saline moisture.

But to return to the immediate subject before us. Looking at the geographical situation of New Zealand, and in the absence of all practical and direct information—

"If we were told that it consists of a group of islands in the South Pacific Ocean extending from the 34th to the 48th degree of South latitude, and from the 166th to the 179th degree of East longitude, at a distance of twelve hundred miles from the nearest main land, the Continent of New Holland, and having an undulating, and in many places a mountainous surface, we should be led to expect a climate 8° or 10° cooler than that of the South of Portugal in the corresponding latitude of the opposite hemisphere—moderate in its extremes of temperature—of a humid atmosphere—with frequent changes of weather, and in general mild, equable, and showery." 28.

By almost all writers the inhabitants of these islands are described as tall, active, well made, and intelligent. Vegetation is described as luxuriant. The hills are one continued forest of lofty trees, flourishing with superior vigour, and affording most picturesque scenery. The fruits and vegetables that can only be cultivated with success, in equable and temperate weather in Europe, thrive remarkably in New Zealand.

Of the various accounts given by voyagers, those of Captain Cook, and, 70 years afterwards, of Mr. Yate, a missionary, are the most correct, as regards *climate*, because these two had seen the whole course of the seasons throughout the year. We shall take that of Mr. Yate.

"North of the Thames," he observes, "snows are unknown, and frosts are off the ground by nine o'clock in the morning. The country during six months in the year, is subject to heavy gales from the East and North-east, which generally last for three days, and are accompanied with tremendous falls of rain. These gales generally commence in the East, and gradually haul round to the North-west, where they terminate in a violent gust, almost approaching to a hurricane; the clouds then pass away, and the westerly wind blows again with some violence. In the Winter season, the moon rarely either changes or wanes without raising one of these tempestuous gales; and during the whole year, the wind is sure to blow, though it may be only for a few hours, every fall and change of the moon."

"The Spring and Autumn," he continues, "are delightfully temperate, but subject to showers from the West-south-west. Indeed, however fine the Summer may be, we are frequently visited by refreshing rains, which give a peculiar richness to the vegetation, and fertility to the land. The prevailing winds are from South-west to North-west, which within this range, blow upwards of nine months in the year; more frequently the wind is due west. During five months, sea breezes set in from either coast, and meet each other half way across the island." 37.

Compared with the climate of New South Wales, Mr. Earle (1827) remarks that, "though situated in the same latitude as Sydney, we found the climate of New Zealand infinitely superior. Moderate heats and beautiful clear skies succeeded each other every day—free from those oppressive feverish heats which invariably prevail in the middle of the day at Sydney, and from those hot pestilential winds which are the terror of the inhabitants of New South Wales."

"Of the summer temperature it will be observed we have only general statements, but it appears that in the Northern division of the country (that nearest the equator) where these observations were taken, the summer, or rather the three warmest months, (for the summer comprises at least three-fourths of the year), are somewhat hotter than in England, and that the spring and autumn have the temperature, and settled weather of a fine English summer, and that the three coldest months have the wet, broken, tempestuous weather of an English March, but with the temperature of our October." 54.

In comparison with Madeira, the mean temperature is rather higher there than in New Zealand, but the range not more limited. With respect to the influence of the New Zealand climate on European Constitutions our information is not complete. Capt. Cook remarks:—

"Our people," he says, "who were daily exposed to the rain, felt no ill effects from it; on the contrary, such as were sick and ailing when we came in, recovered daily, and the whole crew soon became strong and vigorous, which can only be attributed to the healthiness of the place and the fresh provisions it afforded." An account confirmed by Mr. Yate, who observes that, "those who come here sickly are soon restored to health, the healthy become robust, and the robust fat."

Mr. Earle appears to have noticed the healthy appearance of the missionaries and their families. Giving an account of a visit to one of their stations, he remarks, "the chubby children who peeped at us from all corners, and the very hearty appearance of their parents, plainly evidenced that theirs was an excellent and thriving trade." 56.

Dr. Lang, Captain Fitzroy, Mr. Watkins, and others, give similar evidence. Nevertheless it is proved by evidence that scrofula and consumption are prevalent among the natives of those islands.

"'Consumption, violent rheumatism, and sore eyes,' says Major Cruise, 'seem to be the prevailing diseases of the New Zealanders.' Mr. Earle remarks that, considering the nature of the climate, 'it seems unaccountable that the New Zealanders should be subject to so fatal a disease as galloping consumption.' In his examination before the committee, Mr. Watkins speaks of scrofula as one of the prevalent diseases. 'Their diseases are something like our diseases, with the exception of scrofula being, perhaps, more abundant there.' Mr. Tawell, too, in his evidence, states, 'that scrofula is the prevalent disease among the natives.'" 59.

But it does not follow that a climate should be unhealthy because scrofula is prevalent. It has been seen that England and several other climates, widely different in their nature, are nearly on a par in this respect. Climate, in fact, is only one of the many causes of scrofula and consumption. All uncivilized nations suffer from first intercourse with civilized people. Captain Cook tells us that, when he first visited New Zealand, there was no such thing as disease there. The introduction of Syphilis soon changed the scene! Mr. Watkins stated to the Committee in Parliament, that not one in fifty women were free from the disease in New Zealand! The change of their occupations, too, from rearing pigs and poultry, to felling timber in the woods, has had a very deleterious effect on their health. Rum and tobacco have aided syphilis, and the habit of placing the sick in the open air, exposed to winds and rains, has swelled the ratio of mortality.

The following extract will shew what extreme vicissitudes of temperature occur in New Holland, whose climate, generally, is very salubrious.

"Dr. Lang, in his work on New South Wales, after describing the beauty of the climate for at least eight months in the year, alludes to the occurrence of sudden variations in the temperature, 'The most singular phenomena,' says he, 'in the meteorology of New South Wales, is the occasional prevalence of hot winds from the North-westward. These winds occur on an average four times every Summer, and blow from twenty-four to thirty-six hours each time, the atmosphere all the while feeling like a current of heated air from a furnace, and the thermometer generally standing at from 90° to 100° of Fahrenheit. It has even stood as high on one occasion within my own experience as 112½°.' * * * * 'When the hot wind has spent its strength it is usually succeeded instantaneously by a violent gust from the southward, which immediately envelopes the town of Sydney in a whirlwind of dust. I have observed the hot wind terminate instantaneously in a hail-storm of a few minutes' duration from the South-westward, which of course caused the mercury in the thermometer to descend with surprising velocity, the difference of elevation, after a short interval, being on one occasion, when the wind had been unusually hot, not less than 40°.'" 70.

Ophthalmia, dysentery, and influenza are the three most prevalent complaints in New South Wales. The monthly mean temperature of the last-mentioned place and New Zealand are very nearly the same.

The following extract from the Journal of an Invalid, bears on the climate of Van Diemen's Land, which differs considerably from that of Australia.

"'Our Summer days are most uncertain; on Tuesday the thermometer was 92°, with a real hot wind; on Friday it was 52°, with rain, and we were glad to have a roasting fire. From season to season, the changes are less extreme. There is little or no snow in Winter; the climate is dry. But let those withered Indian frames, which a whistle of the wind almost blows to atoms, beware of Van Diemen's Land. The breezes here are generally gales; and when they come from the South, which is almost daily, they are more cutting and cold than the easterly puffs we used to dread across Brunswick Square, London. * * * 'During one hundred and thirty days that I kept a meteorological journal, from October 16th to February 23rd (the Summer in Van Diemen's Land) there were—

Rainy days	42
Strong winds	24
Fine and pleasant	28
Very fine	29
Wind too hot	7

Hottest day, 25th of January, thermometer 99½° in the shade; coldest day, 16th October, thermometer 56°.' It is obvious then, that in point of *equability*, at least, the climate of New Zealand has a decided advantage over that of the neighbouring Australian Colonies." 74.

From the extracts which we have made from this pamphlet, and what we have ourselves learnt from some of our medical brethren who have visited New Holland and New Zealand, we are inclined to think that the climate of the *latter* is little *inferior* to some of the boasted resorts of invalids in Europe. The great advantage of New Zealand over a residence in Italy, Madeira, or other foreign country, will be obvious from the following sensible reasons adduced by Mr. Swainson.

"A mere voyage to Madeira, and a temporary sojourn there is within the means of few; a permanent residence, almost entirely out of the question. Admitting it, therefore, to possess all the advantages claimed for it by its warmest advocates, it is practically valueless to the British public.

Not so, however, New Zealand—an English Colony, peopled by our own countrymen, the greater number from the most respectable class of society, carrying with them English habits, customs, comforts, and conveniencies; and from its insularity, position, and natural productions, calculated to afford a wide and profitable field for every branch of commercial enterprize, it appears to present to the people of this country a *sanative station* accessible to all classes of the community." 77.

The author of this pamphlet is not a medical man: but he is evidently imbued with a philosophic spirit, accustomed to weigh evidence with accuracy, and draw inferences with great caution. We return him many thanks for the pleasure and instruction we have derived from a perusal of his Essay.

CYCLOPÆDIÆ OF MEDICINE AND SURGERY.

I. A Dictionary of Practical Medicine: Comprising General Pathology, the Nature and Treatment of Diseases, Morbid Structures, and the Disorders especially incidental to Climates, to the Sex, and to the different Epochs of Life; with numerous Prescriptions for the Medicines recommended, a Classification of Diseases according to pathological principles, a copious Bibliography, with references; and an Appendix of approved Formulæ: the whole forming a Library of Pathology and Practical Medicine, and a Digest of Medical Literature. By *James Copland*, M.D. F.R.S. &c. &c. Parts V. and VI. London, Longman, and Co.

II. The Cyclopædia of Practical Surgery, embracing a complete View of all the departments in Operative Medicine. Edited by *William B. Costello*, M.D., Member of several Learned Societies, National and Foreign. Part IV. London, Sherwood and Co.

We cannot but look on the several Cyclopædiæ that have lately been or are at this time in process of publication, as at once the indices and agents of the march of improvement in medicine. When we compare their copious pages with the meagre ones of dictionaries not yet extinct, we are struck at once with the difference. This obtains more particularly in the morbid anatomy of diseases, and in the consequent precision with which symptoms are defined and treatment regulated.

Amongst the Cyclopædiæ, that of Dr. Copland, though modestly designated a dictionary by its author, holds, we think, the first rank. In completeness it has not suffered by being confided to a single hand, and, in unity, it has gained.

The last two Parts of the "Dictionary" lie before us. They embrace the consideration of many of the Diseases of the Heart—Herpetic Eruptions—Hiccup—-Hooping Cough—Hydatid—-Hypertrophy—-Hypochondriasis—Hysteric Affections—Jaundice—Ichthyosis—Impetiginous Affections—Impotence and Sterility—Impotence in the Male—Impotence and Sterility in the Female—Indigestion—Induration—Infection—Inflammation—Influenza—Insanity. The latter subject is not quite completed.

Although we cannot notice these Parts in detail, we can speak of them as satisfactorily as if we analysed them. They are equal to their predecessors, and sustain the reputation, a high and a well-earned one, of Dr. Copland. This will be universally admitted to be no trifling praise.

We shall select a few of our author's opinions on some practical and important points, or a few striking facts. It would be useless to do more.

1. *Danger of large Blood-letting in Hypertrophy.*

We quite coincide with Dr. Copland in reprehending those large bleedings for hypertrophy of the heart which some physicians have recommended. After quoting and dissenting from such recommendations by Laennec and by Bouillaud, Dr. Copland observes:—

> "Respecting *bloodletting* in this malady, my experience and opinions are in accordance with those of Dr. Hope; and I consider, with him, sparing abstractions of blood, at intervals of two or three weeks or more, to be the most beneficial. More copious depletions have given temporary relief; but the symptoms have soon returned with increased violence, and carried off the patient, especially in cases where there were also dilatation and lesions of the valves or orifices of the heart. As I have shown in the article BLOOD, large depletions increase the frequency of the heart's action; and this effect is more readily produced by them when this organ is in a state of enlargement. I perfectly agree with the above writer in considering, that the indications of treatment should be to diminish the quantity, without deteriorating the quality, of the blood, and without producing reaction, or permanently enfeebling the action of the heart and the energies of the constitution,—that from four to eight ounces of blood, taken every two, three, four, or six weeks, according to the circumstances of the case, will be sufficient to fulfil this indication, to keep down inordinate action, and to relieve the dyspnœa,—that the diet should be spare, and consist of white animal food, and liquids in small quantity; and that everything heating or stimulating, or calculated to accelerate the circulation, ought to be avoided." 209.

This is judicious advice. The great thing in the treatment of diseases of the heart is to avoid all sources of vascular or nervous excitement—to maintain the secretions, more particularly of the kidneys—to prevent congestions of the vascular system by leeches or cupping or gentle bleeding—and to tranquillize by sedative applications or medicines.

2. *Treatment of Herpes.*

We are induced to allude to this, because it is often troublesome and, medical practitioners frequently experience more embarrassment in cutaneous than in other and serious disorders.

"Keeping," says Dr. Copland, "the connection of the eruption with disorder of the digestive organs closely in view, a mild ipecacuanha emetic should be exhibited, and subsequently any gentle purgative, with magnesia or an alkaline carbonate. Afterwards a free use of diluents and abstinence are all that will be required in most cases. In the more severe attacks, especially of herpes zoster, additional means will often be called for. Where there is much antecedent or attendant fever, M. Rayer advises a moderate bleeding, or the application of a number of leeches to the anus or around the seat of eruption. Neither of these is often necessary. When the evacuations are morbid, and the biliary functions impaired, a dose of blue-pill or of calomel, at bed-time, and a mild purgative, containing an antacid, the following morning, will generally be of service. It may be even requisite to repeat these; and afterwards, particularly when the urinary and fæcal excretions are disordered, to promote the actions of the liver and kidneys, by small doses of colchicum with magnesia or an alkaline subcarbonate. In the more painful cases of zona, these means will be found most beneficial. During the course of the complaint, the diet should be mild, chiefly farinaceous, and in small quantity. The beverages should be demulcent and cooling." 233.

We should say, from our experience of Herpes, that, in persons of pretty strong constitution, smart purgatives, of a mercurial character, and combined with alkalies and saline diuretics, are the staple articles of treatment. Nor is the warm bath, that important item in the management of so many cutaneous complaints, to be neglected.

"When herpes assumes a chronic character, owing to the successive eruption of clusters of vesicles, or to the excoriation of the inflamed skin, small doses of blue pill, or of the hydrargyrum cum creta, and mild stomachic aperients, are the most appropriate means. In addition to these, the decoction of sarsa, or of the elm-bark, with liquor potassæ, are often very serviceable. In *herpes labialis*, and *herpes præputialis*, these remedies are especially required. In more obstinate cases, particularly when the excretions continue disordered, mild stomachic purgatives, and alteratives, should be persisted in; and warm or tepid bathing, or even vapour baths, occasionally employed. In *herpes iris*, the warm bath, and minute doses of the arsenical solution with the liquor potassæ, are generally of service. Dr. A. T. Thomson, recommends, for this species, the decoction of the Rumex obtusifolius with these alteratives." 233.

We would observe that the vesicular eruptions which become chronic, and are characterised by either considerable irritation of the surface, or by much discharge, have always appeared to us to be particularly benefited by active aperients of a mercurial character, and by the liquor potassæ pushed to full doses. Whether the latter acts mainly by its diuretic or its other properties we have never been able to determine satisfactorily. But that it is very serviceable we are well assured. Many persons seem to us to give the liquor potassæ as a matter of course in cutaneous disorders. So far as we have seen, it proves most serviceable under the circumstances we have mentioned.

"When herpes occurs in cachectic or aged persons, not only should great attention be paid to the state of the excretions, all fæcal and morbid accumulations being duly evacuated; but the digestive and assimilating functions ought to be promoted, by exhibiting gentle tonics, with the alkaline carbonates. If the eruption ulcerate, the application of nitrate of silver, in substance, or in a strong solution, will promote cicatrisation. If there appear a disposition to slough, the preparations of bark, &c. will be required. When violent sub-cutaneous pains accompany zona, hyoscyamus or other narcotics may be given with the medicines already recommended; but the warm or vapour bath, and colchicum, as above prescribed, will be found the most successful. In *herpes præputialis* and *herpes vulvæ*, the early application of nitrate of silver will often shorten the duration of the eruption. Where there are much heat and stinging of the parts, a wash containing the subborate of soda, or the sulphate of zinc, or of alumina, will often be useful. These may also be prescribed in herpes circinnatus; but in all cases the chief attention must be directed to the removal of disorder in the digestive and biliary organs, and to the regimen of the patient." 234.

Of all tonics the infusion of sarsaparilla, with or without alkalies, has, in our hands, answered best. We would observe that we have twice seen a very troublesome sore succeed the application of the nitrate of silver to herpes præputii. We believe that the best thing for it is a lotion of the acetate of lead or of the sulphate of zinc. Some individuals with a long prepuce are extremely prone to the affection.

3. *Treatment of Hiccup.*

Hiccup depends on many causes, and to relieve it they must, of course, be investigated, and the remedy suited to the particular nature of the case. But idiopathic hiccup, unconnected with any obvious lesion or appreciable disturbance of the function of any organ, is occasionally a troublesome disorder. Dr. Copland remarks that, in this form, the administration of *opium* with *ether*, or of other *anodynes* and diffusible *stimulants*, and of refreshing alkaline beverages, will generally give relief. Various *antispasmodics*, volatile nervines, and sedatives, especially *camphor*, *ammonia*, *hyoscyamus*, *hydrocyanic acid*, either taken into the stomach, or inhaled into the lungs with warm vapour, will often remove the complaint. Idiopathic hiccup also may cease spontaneously; or it may be arrested by exciting some powerful mental emotion, as surprise, fright, &c., or by powerfully exciting the diaphragm by *sternutatories* or *emetics*; or by taking any substance in quantity into the stomach.

In obscure or doubtful cases, *camphor*, with or without the *nitrate of potash*; the *spiritus ætheris nitrici*, or the *spiritus ætheris sulphurici comp.*, or the *tinctura camphoræ composita* may be given with *demulcents*. The alkaline *sub-carbonates* may also be exhibited with *hyoscyamus*, or with *colchicum*, *opium*; or the *hydrocyanic acid* may be given in an aromatic or gently tonic infusion.

4. *Classification of Infectious Agents.*

In a very elaborate and very useful article on infection, Dr. Copland presents us with a Table, embodying in one group the various infections. We think it worth presenting.—*(See following page.)*

It is not to be supposed that such a thing as a Classification of Infections could be executed without opening a door to doubt and criticism. We may therefore observe, without fear of giving offence, that it is not quite certain that fevers which have their source, or are supposed to have their source, in vegetable miasms, or at least in effluvia from marshes, &c., never subsequently spread by infection; nor do we esteem it quite proved that pestilential cholera or even yellow fever, is to be put in the same category with typhus. Yet the classification, bating some disputable points, is comprehensive and accurate.

Class of Agents.	*Order of Agents.*	*Species of Agents.*	*Diseases resulting therefrom.*
I. NON-DISSEMINATING, AND NON-PERPETUATING INFECTIONS. *Idio-infectants.*	i. *Miasms or mephitic vapours—Endemic Infection—acting through the air.*	1. Miasms from decayed vegetable matter aided by moisture, in temperate ranges of atmospheric heat.	Catarrhal fevers. Rheumatic attacks. Intermittents. Enlargements of the spleen, and torpid states of the liver.
		2. Exhalations from absorbent, or deep, exhuberant, or marshy soils, suspended in atmospheric humidity at temperate grades of warmth.	Intermittents. Remittents. Simple dysentery. Simple cholera. Bilious fevers. Obstructions and other diseases of the liver and glandular organs.
		3. Miasms or vapours from decayed vegetable matter, or from marshes and rich, deep, and humid soils, at high ranges of temperature.	Inflammatory, bilious and gastric fevers of both a remittent and continued type. Diseases chiefly of the abdominal viscera.
	ii. *Unwholesome and poisonous ingesta*—Infections occasionally epidemic.	Unripe, diseased, or decayed grain. Diseased or putrid fish or flesh. Water containing putrid animal matters, &c. &c. &c.	Ergotism. Gangrenous ergotism. Asthenic and chronic diarrhœa. Dysentery. Scurvy and scorbutic dysentery. Mucous, gastric and putro-adynamic fevers.
	iii. *Self contaminating agents*, or morbid matters formed in a part, afterwards contaminating the system generally.	1. Cancer. Fungo-hæmatoid disease, &c.	The carcinomatous and fungo-hæmatoid cachexy.
		2. Purulent, sanious, or other morbid secretions carried into the circulation.	Acute hectic. Low remittent, and adynamic states of fever, often attended by phlebitis or purulent deposits in the viscera or joints.
INFECTIONS.—	i. *Animal effluvia.*—Producing diseases propagating the same or similar maladies in favourable circumstances. *Conditionally and consecu-*	1. Effluvia from animal matter or from vegeto-animal matters during decomposition, aided by humidity.	Adynamic or pernicious remittents. Continued fevers. Adynamic dysentery. Cholera. Gastric, mucous, or enteric fevers.
		2. Emanations from living bodies in close or unventilated situations.	Adynamic putro-adynamic, and malignant fevers. Malignant dysentery.

II. CONDITIONALLY PERPETUATING *Contaminating Infections.*	*tively infectious*, chiefly by means of diffusive and impalpable emanations.	3. Emanations from the secretions and discharges of the sick confined in close apartments, &c. and the direct application of these secretions.	Erysipelas. Hospital gangrene. Phlebitis. Puerperal fever.
	ii. *Animal secretions and septic animal matters.*—Infectious chiefly by contact, or inoculation of a palpable matter; *chiefly sporadic.*	1. Morbid secretions in recently dead bodies.	The irritative fever, or malignant effects produced upon opening recent bodies, by the morbid secretions poured out in serous cavities.
		2. Animal matter in a state of putridity or decomposition.	Diffusive or disorganising inflammation of cellular parts. Inflammation of lymphatics of veins, &c.
		3. Morbid secretions communicated from the lower animals by contact or inoculation.	Glanders. Farcy, malignant pustule and other affections arising from contaminating diseases in the lower animals.
		4. The poisonous bites of insects and reptiles.	General vital depression, and septic disorganization, or solution of the vital cohesion of the tissues.
III. SPECIFIC INFECTIONS.—Infections immediately or mediately disseminating and perpetuating their kinds, by a morbid impression, or by contamination, or by both. Capable of retention and communication by Fomites.	i. *Impalpable specific infections* of susceptible persons. Diffusive or volatile infections, frequently epidemic.	Emanations from the secretions, excretions, and surfaces of persons already affected.—Propagating their kind by a diffused and impalpable effluvium, or vapour.	Epidemic and exanthematic typhus. True yellow fever. Pestilential cholera. Pertussis.
	ii. *Palpable specific contagions.* Consistent contagions.	A specific secretion or virus from the seat of disease perpetuating maladies always presenting the same characters.	Rabies. Syphilis. Gonorrhœa. Scabies. Yaws. Sivvens. Frambœsia. Purulent or Egyptian Ophthalmia. Cow-pox. Pellagra. Porrigo.
	iii. *Infections both diffusive and consistent.*—Often epidemic.	Diffusive and impalpable emanations, and consistent secretions, from the bodies of the infected, either of which may produce the same disease.	Chicken-pox. Scarlet fever. Small-pox. Measles. Malignant puerperal fever. Plague.

5. *The Union Workhouses and Typhus.*

Dr. Copland makes some observations which we do not scruple to bring forward. If founded in truth, they ought to stir up inquiry and draw down retribution on the heads of the guilty—if in error, those criminated should gladly exculpate themselves.

> " I am convinced that the low dietaries assigned to the poor in the Union workhouses, in connection with crowding, and with imperfect ventilation, in many of them, have been a chief cause of the present prevalence of typhus throughout the country. And although the infectious visitation may not have reached those who have been the prime movers in the iniquity, yet it may overtake some of them with no measured retribution. Persons who require the aid of the Poor Law have usually, as respects food or drink, and sometimes as regards both, lived fully or intemperately; and when they are subjected to a diet, altogether insufficient for the continuance of health even in the temperate, low fever, which readily propagates its kind among the predisposed, and on occasions favouring communication, soon makes its appearance. This result the more certainly follows, when numbers are similarly circumstanced, and placed in buildings possessing no thorough ventilation or perflation of air. The only recently erected Union workhouses which I have seen, are most improperly planned, inasmuch as they have windows only looking into the interior of the Court, of which they form three of the sides. This is shameful if it proceed from ignorance, and flagitious if it be done designedly. We can hardly suppose architects so ignorant of the most generally acknowledged principles of their art, as to neglect ventilation where it is most required. Are we therefore to consider that they have been controlled by those who have sacrificed feelings of humanity to the expediency of political economy." 348.

We do not conceive that political economy is answerable for such inhumanity. Some political economists may be so, but the crime, if it exist, is the peculiar and private property of selfish and brutal economists.

Treatment of Persons in whom Symptoms of Infection have appeared.

Even when symptoms present themselves, which render it pretty certain that the patient is actually infected, Dr. Copland believes that the disease may be yet mitigated or prevented by treatment. He excepts, however, small-pox, scarlet fever, and measles.

The principles on which Dr. Copland acts are the following:—1st. That the *more immediate impression* of infections is made upon the nervous system of organic life.—2d. That this impression is of a sedative or *depressive* kind. 3d. That infectious agents not only *depress*, but also *modify* or *alter* the vital influence in a special manner, or, in other words, each infectious agent produces a peculiar or specific depressing effect.—4th. That the vascular system and circulating fluids soon experience the effects of this impression ; and that the action of certain infections and contagions are earlier displayed on this system, in respect of some contagions, than as regards others.—5th. That the circulating, secreted, and excreted fluids undergo a consecutive and progressive change.—6th. That the impression on the organic nervous and vascular systems, and the consecutive changes in the fluids, ultimately affect and impair the vital constitution and cohesion of the soft solids.—7th. That, as an infectious agent exerts a depressing or sedative, as well as a special or peculiar, morbid impression, it is reasonable to infer, that whatever tends to increase the nervous power, will enable the energies of life to resist the morbid impression, to prevent the progress of contamination, and often ultimately to remove both their immediate and remote effects.

In many cases, therefore, Dr. Copland has advised a restorative and tonic treatment, together with proper prophylactic means. Frequently, he informs us, this treatment should be preceded by an *emetic*, which may be conjoined with some warm or stimulating substance. A warm *stomachic purgative* should afterwards be exhibited; and hot diluents, with camphoratad or aromatic substances, may also be given. The energies of life ought to be promoted by means suited to the habits and circumstances of the individual, particularly by tonics or light nutritious diet, and pure dry air. When the infectious agent produces, at the period of exposure to it, a sensibly depressing and morbid operation, it will be often of service to excite, as soon as possible, an artificial febrile commotion in the system, and to promote the secretions and excretions.

> "When the primary operation of infectious agents is characterised by great vital depression, it is surprising how large doses of tonic and restorative substances may be taken before this state is removed. A lady of a delicate constitution, usually unable to take more than two glasses of wine after dinner, without occasioning heat and discomfort, was exposed to concentrated effluvia of the exanthematic typhus now prevalent. She felt an unpleasant odour, followed by a sudden loss of strength, nausea, and all the symptoms indicative of infection in a severe form. Her spirits were depressed; she stated her conviction that she had caught the infection, although she had approached it without any dread; gave directions as to her affairs, and resigned herself to her bed. I found her, with a weak, irregular pulse, slow and very compressible. The countenance was very pallid, and the mental and corporeal depression was extreme.—I prescribed camphor in the form of pill, and the decoction of cinchona with the compound tincture, the tincture of capsicum, the chlorate of potash, and carbonate of soda, in full and frequent doses. In the intervals, wine was given freely in the form of negus, a bottle being taken in the twenty-four hours in this form. These means were persisted in for two days, before the powers of life rallied; when a free and general perspiration broke out, and restoration quickly took place.
>
> Of four persons who were exposed to the concentrated emanations of typhus, three of them were seen by me soon afterwards, owing to the appearance of symptoms of infection. They were all treated upon the same principles; sulphate of quinine and camphor in full doses, and as much purified extract of aloes as was necessary to keep the bowels open, were given every three or four hours, in two of these cases. The three, thus treated, soon ceased to experience the precursory symptoms. The fourth of these exposed persons was an aged female, and hence much less susceptible of typhus infection than the three young persons who had evidently caught the infection. She escaped, but carried the infection to her son and daughter." 364.

Here we shall take our leave of Dr. Copland for the present. At a future opportunity, we shall return to his valuable Dictionary, and pick out some of the many valuable things which it contains.

We now turn to the CYCLOPÆDIA of PRACTICAL SURGERY. A considerable delay has taken place in the production of the present Part. The articles contained in it are not of a very important character. They are, independently of some minor pieces, as follows:—Ankylosis, by W. J. Little, M.D.; Anthrax, by W. B. Costello, M.D.; Antiphlogistics, by H. T. Chapman; Anus, by John Malyn; Aqueous Humour—Aquo Membranitis, by R. Middlemore; Argenti Nitras, by H. T. Chapman; Arm, Bend of, by C. Tarral, M.D; Arsenic, by G. G. Sigmond, M.D.; Diseases of Arteries, by W. B. Costello, M.D.; Anomalies of Arteries, by P. H. GREEN, M.B.; Traumatic Arthritis, by J. Blackburn; Articulations, by J. Blackburn; Asphyxia, by P. Bennett Lucas.

The article Ankylosis is concluded by Dr. Little in the present Part. It contains some interesting cases in which tendons were divided with great benefit. "Anus" is well handled by Mr. Malyn, who has brought together all the facts connected with a part of so great surgical importance.

The observations on "Aquo-Membranitis" by Mr. Middlemore, are interesting. Passing over his account of the symptoms, &c. we are induced to point out the treatment that he recommends.

One great point is to bear in mind, the state of health, and the constitutional vigour of the patient.

> "I have subdued the severest forms of inflammation of the membrane of the aqueous humour by means of quinine, with very slight alterative doses of mercury,—mercury *not* given to the extent of producing salivation—when the disease has occurred in feeble strumous children; and this plan of management I adopted and recommended at a time when, as far as I was able to learn, it was the customary practice to treat the disease by means of mercury, as for the cure of common iritis." 355.

If the patient, though young, is tolerably strong, Mr. Middlemore advises a few leeches, and small doses of mercury so as to affect the mouth —blisters behind the ear—poppy fomentations, or an aqueous solution of opium (prepared by adding half a pint of boiling water to four scruples of powdered opium, allowing it to stand for twenty minutes, then filtering for use), or a weak goulard lotion—a mustard pediluvium every night—a darkened chamber—and a mild diet. The necessity for bleeding will be determined by the state of the parts and of the constitution.

> "When extensive muddiness of the pupil is present, with merely a slight degree of inflammation, and more especially if the neural surface of the cornea is cloudy and opaque by patches, the best plan of management consists in the administration of four or five grains of the hydrargyrus c̄. cretâ every evening, with three or four grains of quinine, taken in divided doses during the day; and to these means may be advantageously added the formation of a small issue in the arm. Even in some apparently hopeless cases, where the chambers of the eye have been nearly filled with lymph, I have occasionally had an opportunity of witnessing the restoration of a very useful degree of vision, by continuing this plan of treatment, until the gums have become slightly tender; and then persevering in the use of quinine, and the occasional administration of mercury in smaller doses, until every portion of the lymph has been absorbed, except that which has become securely organized." 356.
>
> "In the cases," he continues, after alluding to one particular instance, "of children who have been under my care, where the inflammation has been somewhat severe and protracted, and where the sulphate of quina has not been serviceable, I have prescribed, with great advantage, an evening powder, containing five grains of mercury with chalk, and three of rhubarb, and also from five to fifteen drops of liquor potassæ, to be taken twice a day. Such children have generally had a furred tongue, fœtid breath, and tumid abdomen, so that, before

commencing the treatment, I have thought it desirable to evacuate the bowels pretty freely with castor oil. I have tried the internal administration of iodine, but it has not answered my expectations, although it has sometimes been useful as a collyrium. A small teaspoonful of the following drops, administered in water two or three times a day, may prove serviceable in cases where the habit is sluggish, the pulse slow and languid, and where the upper lip, tips of the ears, and alæ of the nose, are in a state of hypertrophy:—

℞. Tinct. Iodinii ʒiss.
Vini Ferri ℥xivss. Misce.

In adults and elderly persons, where the symptoms of the disease have not entirely disappeared after venesection and the use of mercury, and where quinine and various mineral and vegetable tonics have been prescribed in vain, I have derived advantage from the administration of the carbonate of iron, or small doses of turpentine, and in other instances colchicum has produced a very satisfactory effect, even when it has appeared almost necessary to relinquish in despair all further attempts to relieve. The indications for the one or other of these remedial agents are afforded by the characters and peculiarities of the constitution." 356.

Mr. Middlemore objects to the operation of puncturing the cornea, the immediate effects of which he admits to be promising. In the cases in which he has performed it, all the symptoms have returned with equal and oftentimes increased severity, in twenty or thirty hours afterwards. The pain occasioned by the operation is very severe, for, in order to perform it properly, the eyeball must be steadily fixed and exposed to a pretty strong light. To do this simple operation on a healthy eye furnishes no correct guide to the trouble experienced when performing it upon an organ in a condition of acute inflammation. He gives, however, these directions for the performance of the operation, should it be deemed advisable.

The patient should be placed upon a table, as for the operation of extraction, and it is found advisable to bind up the eye upon which it is not intended to operate, as a means of steadying its fellow. A cataract-needle (sharp at the point, flattened and sharp at the sides, having a delicate groove running on that side of it opposed to the operator, when introduced with its flat side directed towards the iris, but not continued quite to its point,) is then to be passed through the cornea into the anterior chamber for a short distance, when the aqueous humour will spirt through the opening it has made. It is desirable that the instrument be so made that that part of it a little behind its point shall be so small as not quite to fill up the corneal opening, and that the point of the instrument shall not project far into the anterior chamber, lest the iris should be entangled and injured. The puncturing of the cornea does not much injure its texture, nor produce severe pain, but the unavoidable exposure of the eye to light, and the degree of compression of the eye required for the purpose of securely fixing it, occasion, in an acutely inflamed state of that organ, the most intense anguish.

Mr. Middlemore describes what he considers, and, no doubt, with reason, to be chronic inflammation of the membrane of the aqueous humour. In the instances which have occurred to him, there has been a faint blush around various parts of the cornea,—in some places extending quite to its margin, in others, terminating a little anterior to its border; a few large trunks within the sclerotica have proceeded from the periphery of the globe at its directly upper, lower, and lateral parts, forming an interrupted and faintly marked and festooned vascular zone in that situation. There has also been a nebulous state of some part of the membrane of the aqueous humour, but no definite lymph-like patches, no pain in the eye or forehead, and no intolerance of light. Sometimes the anterior part of the eye assumes an appearance of undue plenitude, but this is by no means of frequent occurrence. This state of things may continue for a long period. The treatment is simple —avoidance of exposure of the eyes to light or much exertion—counter-irritation behind the ears—hydrargyrum (Mr. Middlemore we know not on what authority calls it hydrargyrus) c̄ creta, and rhubarb, &c.

Strumous inflammation of the membrane of the aqueous humour differs but little in its local characters from those of common inflammation of this membrane. The disease is, however, less acute in its symptoms, and generally of longer duration. Mr. M. has treated it successfully with the sulphate of quinine and small doses of the hydrargyrum cum cretâ, and counter-irritation. The local applications he has found most serviceable have been a weak solution of hydriodate of potass (six grains to the half-pint of distilled water), or the goulard lotion, (prepared by adding half a drachm of the liquor plumbi acetatis to half an ounce of the wine of opium, and half-a-pint of distilled water).

All these affections are very prone to relapse, and the treatment should be continued after the appearances of inflammation are gone. Nor should the eye be used over much.

The subject of ARTERITIS is treated at some length by Mr. Costello, assisted by Mr. Porter, of Dublin. The disease is one of which so little is generally known that we shall take some notice of the present account of it.

Mr. Porter starts with admitting the difficulty of determining, either by symptoms or cadaveric appearances, the existence of arteritis. The red colouration of the lining membrane may be simply due to straining, and there seem to be no positive criteria to distinguish it from the redness produced by inflammation. Under any circumstances, Mr. Porter assures us that he would hesitate to pronounce any appearance of redness on the internal surface of an artery, as indicative of inflammation, unless it were accompanied by other phenomena generally taken as the results or effects of this process on the arterial structure, such as thickening, friability, and softening, and some of which, it is probable, are developed with great rapidity, and at an early period.

Of the *causes* of arteritis nothing is certainly known.

The *symptoms* vary greatly in intensity. In some instances they are very obscure. In others, fever may run high, with severe pain in the course of the affected vessel. When this is the case the danger to the limb, and even to life itself may be very great. The artery is exceedingly painful, and like a chord to the touch; the pulsations may still continue, or be almost wholly obscured; the limb swells, becomes covered with phlyctenæ, and falls into gangrene, or, as has been observed by MM. Graves and Stokes, is for a time partially paralysed.

Mr. Porter divides arteritis into the healthy and the unhealthy—the former characterised by the effusion of coagulable lymph—the other by the absence of any such barrier to extension. The healthy is very generally the result of accident or injury: the unhealthy, as may be anticipated, is more frequently idiopathic.

Consequences of Arteritis.—These may be arranged in two classes—as it occasions alterations in the structure and functions of the vessel itself—or as it induces disease in other and remote parts.

"According to Cruveilhier, the essential character of commencing arteritis is the coagulation of the blood within it. This is observed in the healthy or adhesive inflammation occasioned by a division of, or the application of a ligature on, a vessel, when a coagulum is found to occupy the interspace between the ligature and the next collateral branch: but is still more remarkable in the unhealthy or spontaneous, where it is the most frequent cause of the gangrene that occurs in old persons. That coagulated blood is generally found after death within an inflamed artery is well established by dissection, but that this is the result of the inflammation is more than questionable. In a case that occurred in the Meath hospital,* and which was accompanied by the senile gangrene of the toes and feet; the femoral artery, which was greatly enlarged, was found, after death filled with a coagulum, but during life the blood unquestionably circulated through it, the motion imparting to the finger the sensation of a weak and indistinct thrill like that felt on touching the course of the urethra whilst the urine is passing. In another case treated in the same institution, where a ligature had been placed on the femoral artery, the segment below the chord exhibited the deepness of colour and the increased calibre of an inflamed vessel, but contained not a single particle of coagulum of any description, although there was no collateral branch within a considerable distance. Under these circumstances, and seeing that the aorta, at its arch or even before the arch is formed, is often the seat of inflammation, in which case the whole circulation should be stopped, it may be doubted whether the formation of a coagulum is an effect of inflammation during life; that which is found after the application of a ligature being the result of the stagnation of a small quantity of blood between it and the next collateral branch." 380.

Mr. Porter acknowledges the difficulty of determining the exact nature of the primary appearances of arteritis. He thinks it may not be unfair to assume, that arteritis is ushered in by an increase of vascularity and of redness, followed, however, very speedily by an effusion of organizable coagulating lymph on the surface of the internal membrane; which, if the surfaces are laid together, will in a short space so glue and fasten them, as to close the vessel at that point.

He doubts, and so do we, the correctness of the opinion, that the obliteration of large tracts of arteries, such as that of the umbilical arteries and of the ductus arteriosus, is due to inflammation. Nothing can be more improbable. Mr. Porter attributes such obliteration to the operation of a general law in the animal economy, which tends to the closure of all canals, when no longer permeated by the substances for which they were designed to afford a passage.

Symptoms.—"The very early symptoms of the unhealthy inflammation of arteries are not known. In some instances, acute and severe pains have been experienced before the appearance of internal aneurisms, but in others there has been even more satisfactory evidence of the existence of the disease without the patient's complaining of any suffering: I can therefore only avail myself of examples in which the disease was fully formed, in order to describe its appearances and effects. When an opportunity is afforded of examining a vessel in this condition, and its coats are slit up longitudinally, the internal membrane appears to be of a bright crimson or carmine colour, varied with small spangle-like patches of a paler and more opaque tint. This vascularity is not confined to the lining membrane, for on removing this, the fibrous coat is seen also to be deeply stained. Between these, but more closely attached to the former (for it is removable with it,) is a deposition of a soft cheesy steatomatous material, which being seen through the lining membrane, gives it that patchy appearance already mentioned. An artery in this condition is remarkably increased in calibre; its properties, both of contractility and elasticity, are diminished, and it easily breaks down and tears, under an extending force that would have little or no effect on a vessel not the seat of disease. Probably in a very short time after the formation of this steatomatous deposit, ulceration commences in the lining membrane, which, proceeding from within, erodes the middle tunic to a greater or less extent of depth, and thus leads to the production of aneurism.

---

* "The phenomena and results of this case attracted considerable attention amongst the medical attendants and were particularly remarked by my friend and colleague Dr. William Stokes. The preparation is in the museum of the Park-street school."

The symptoms that indicate the presence of arteritis, have not been clearly laid down, and moreover are such as might easily be overlooked, if not sought for by a careful and even rigid examination. It has been already stated that the previous occurrence of pain is not a satisfactory diagnostic. In the case of inflammation of the femoral artery already alluded to, Dupuytren stated, that a dull heavy pain had been previously felt in the iliac fossa of the same side, from whence it descended along the internal part of the thigh, then to the posterior part of the leg, and finally reached the sole of the foot and the toes. He also speaks of the patient having been annoyed by cramps, and in general, persons suffering from aneurism of the aorta accompanied by inflammation complain of pain in the back, stitches in the side, and spasms in different parts of the chest. Where gangrene is threatened, the temperature of the limb is diminished below the situation of the inflamed artery, and the coldness is felt to be increased in intensity as the examiner proceeds downwards, the sensibility being impaired exactly in the same proportion. On laying the finger over the course of the vessel, its pulsations are found to be weak, tremulous, and indistinct, the artery in its entire course appearing to be converted into a hard incompressible cord." 381.

Suppuration in an artery must be rare, but has been reported.

Treatment.—Acute and healthy arteritis should not, Mr. Porter thinks, be meddled with. He doubts whether the recommendation to treat the unhealthy form of arteritis on decided antiphlogistic principles be not rather too sweeping. He looks on it as analogous to erysipelas, believes that in each particular case the particular circumstances must be considered, is of opinion that the records of surgery offer nothing cheering or encouraging upon the subject, and in fact that fresh investigations are requisite.

Mr. Porter has satisfied himself that arteritis is one of the immediately exciting causes of aneurysm. He adds:—

"I have latterly investigated the history of every case that presented itself, and have come to the conclusion that intemperance, particularly in the use of ardent spirits, and repeated or ill-conducted courses of mercury, were most generally and most intimately connected with the production of arterial inflammation. This latter medicine is seldom used in great quantities, or for any protracted length of time, unless for the cure of syphilis, and hence many have entertained an opinion that arteritis might be a result of the operation of the venereal poison. In this supposition, I find Scarpa, Richerand, Corvisart, and to a certain extent, Mr. Hodgson, seem to coincide. Dupuytren, in examining arteritis in connexion with gangrene of the extremities, states that it is found almost always in persons that have indulged too freely in spirituous liquors, in stimulating food, and in those who have suffered from chronic diseases of the heart, or of the aortic valves or great vessels. Bouillaud, amongst the other causes that may produce inflammation generally, enumerates fatiguing and continued exercise, stimulating drinks taken in too great quantity, and the abuse of spirituous liquors as particularly conducing to arteritis." 382.

We would take the liberty of hinting to Mr. Porter that were he to compress his matter, arrange in a more natural order what he writes, and adopt a less rambling and a severer style, his observations would gain in force what they would lose in space. Those observations are in themselves so valuable, that we trust Mr. Porter will pursue his enquiries.

The Editor appends to these remarks of Mr. Porter's an account of the recent researches of M. Bizot, of Geneva, on the alterations of arteries.

" M. Bizot had observed but one form of alteration resulting from an acute attack of the internal lining of arteries. It showed itself upon the surface of this membrane in the form of an albuminous exudation, varying in thickness, as well as in consistence, and resembling jelly, being smooth, transparent, limpid, or rose-coloured. In some instances, the transparency of the adventitious membrane was such as to allow the pale colour of the artery to be distinguished beneath it. If a portion of the lining membrane be raised and torn off in the direction of the new deposit, the latter, behind which it is placed, and from which it may be separated, tears off with it. These exudations were in general confined to one spot, but they were also observed in scattered groups or patches of various sizes, and in some cases the transparent matter was so abundant as to fill up completely the calibre of the vessel. It is very frequently found at the orifice of the arteries arising from the arch of the aorta, of the cœliac, mesenteric, and renal arteries, and on the posterior surface of the aorta, obliterating partially or completely the orifices of the intercostals. Sometimes the albuminous spots appear puckered round their edges, which made Mr. Hodgson liken them to atrophied hernial sacs. When this matter exists in the form of isolated patches, it probably does not give rise to any general symptoms; but the case is just the reverse, when the morbid secretion is thrown out extensively on the internal surface of the large arteries. M. Bizot thinks that acute aortitis occurs in this way, and cites three examples observed by himself; the disease, in each case, terminating fatally. The symptoms observed were œdema accompanied by fever, but without any disturbance in the functions of the heart, or of the other organs essential to life; and these symptoms, he considers as indicating the extensive development of false membrane on the internal surface of the aorta." 383.

Mr. Costello quotes one of the cases at length. We must confess that we do not look on it as quite satisfactory. M. Bizot observes, in continuation, that the exudation of acute character may vary, however, from the description given above, being, in some instances, more intimately adherent to the lining membrane, more firm, and of a milky white. Sometimes these patches resemble the hard boiled white of egg, and present the hardness of cartilage; in the latter case, the lining membrane can no longer be found. That they severally commence in albuminous effusion cannot, however, be doubted, for if, while in the soft state, they be subjected to ebullition, the most transparent of these exudations become firm, opaque, and white. Some authors have described them as being developed between the internal and middle tunics, but this is erroneous, as may be shown, by peeling off the latter with great care: the shred stops or breaks off suddenly on arriving at the edge of the cartilaginous patches, and cannot be continued over its surface. In regard to these cartilaginous patches, another error is prevalent, viz. that they ultimately become osseous. Now if such transformation ever occurred, the stages of the transition must surely be detected, but this is not the case. Another peculiarity of these exudations is that they occur, most commonly, before or after the middle period of life.

M. Bizot next notices another form of alteration differing from the preceding in origin, in development, and in results. Alterations of this description may be observed even in subjects under puberty, presenting themselves singly or in groups, as small specks or dots of the size of a grain of sand, and of a whitish yellow colour, round or near the orifices of the coronary, innominate, carotid, subclavian, and intercostal arteries. They are not elevated upon the surface of the internal tunic, but are seen through it, as neither the transparency, nor the consistence of this membrane is in the slightest degree affected by their presence, at least, while in this, which may be considered, their *rudimentary* state. If a shred of the membrane be detached and torn towards these yellow spots, the spots peel off with it, being slightly adherent to its external surface; but if the same attempt be made, after the spots have become confluent, and formed a patch of some extent, the yellow substance then adheres partly to the outer side of the shred, and partly to the middle tunic; hence it is obvious, that these yellow spots are developed neither on the internal, nor on the middle tunic, but between both. When they attain a certain size, as they frequently do in old age, they undergo various transformations, of which, ulcerous, or rather atheromatous softening and ossification are the principal.

" The process of softening," continues M. Bizot, " presents various stages. In the first, the internal membrane covering the patch is still unaffected, but the internal fibres of the middle coat, on which it rests, are more or less altered according to the degree of advancement which the process has attained; these fibres are softened, and differ in colour, being of a brighter yellow than the sound parts of the same coat. The patch itself appears to be slightly elevated, but there is neither redness nor injected vessels in its vicinity.

In the second stage, the patches are elevated, like pustules of an irregular or rounded shape, on the surface of the aorta to the height of a line or two. The internal membrane is still thin, transparent, and unaltered. On pressing these eminences gently, the finger perceives the movement of a semi-fluid matter. If the pressure be increased, the lining membrane gives way, and a yellow matter escapes, which resembles healthy pus; sometimes this matter is either moist or dry, and as it were farinaceous, or the mass seems as if it consisted of a quantity of minute, thin, shining spangles, some of them of a silvery, some of a golden hue. The matter being evacuated, the pustule disappears, and the internal membrane is depressed in the place it occupied. On removing this membrane, the internal surface of the middle tunic is found ulcerated, softened, and reduced to a firm, moist, yellowish detritus; several of the laminæ of this tunic are thus altered, but the healthy structure still exists towards its most external layers.

In the third stage, the pustules having emptied themselves spontaneously, small irregular depressions, with edges slightly elevated, are observed. The surface of these depressions is smooth, but exhibits here and there fissures or cracks. On removing this internal membrane, the softened matter and the alteration of the middle tunic just described will be found. In some instances, the internal membrane has disappeared, and the blood is in contact with the middle tunic.

If we now compare these several lesions together, we must at once perceive that they are nothing more than degrees of one and the same alteration, which originated in the small point which was first observed between the internal and middle tunics, and which at a later period becoming fixed to the latter, passed through the stages above described." 386.

M. Bizot is of opinion that the succession of these changes proves to demonstration that the alterations described under the various names of spots, pustules, abscesses, atheromatous, and steatomatous productions, &c. have one common origin, to wit, the almost imperceptible spot, developed without any trace of inflammation between the innermost and middle tunics of the arterial tube. He gives to the cartilaginous patches, as our readers must have already observed, a totally different origin, *they* commencing in albuminous effusion in or on the internal membrane.

Osseous Transformation.—Sometimes, proceeds M. Bizot, a hard semi-transparent point, of the same colour as the patch itself, forms in its centre, and increases slowly, more in extent than thickness, till it alters the structure of the middle tunic, as has been already described. The surface in contact with the lining membrane increases less rapidly, and a long period elapses, even when the osseous disk is of some size, before any remarkable change can be observed in this membrane. In some cases, however, it seems to be slightly thickened by a layer of albumen spread over the concretion. Ultimately, even this membrane is destroyed by the progress of the ossification, which then is in immediate contact with the blood. The yellow soft matter always surrounds the concretion, but no fibres can be discovered where they are in contact, the fibrous structure of the middle coat can only be detected by proceeding from the circumference of the concretion towards the sound portion of the artery. It is in the advanced period of life that these concretions are most commonly formed. But they have also been discovered in subjects of tender age. Mr. Hodgson mentions a case observed by Mr. Young, in which the temporal artery of a child only fifteen months old was found ossified, and Wilson met an instance of ossification in the aorta of a child only three years old. Bichat supposed that ossification never occurred in vessels through which black blood only circulated, and consequently that these concretions were not observed in the pulmonary artery. This, however, is erroneous, for, though rare, they occur.

Although the cartilaginous concretions will exist simultaneously with the ulcerous softening of the middle tunic, and with the osseous concretions, still the former is not transformed into the latter. They have, so M. Bizot tells us, the separate origin that he describes.

Alterations peculiar to the Arteries of the Limbs.—Of these M. Bizot gives the following account. They first appear, he says, as minute stains; they adhere to the middle tunic, and cannot be torn off with the lining membrane. Becoming multiplied they extend round the artery like a zone, and seem to be slightly depressed below the general surface of the cavity of the vessel; their adhesion to the middle tunic is so firm, that they cannot be separated from it, like the yellow patches in the large arteries, when we tear off a shred of the lining membrane. The fibres of the middle tunic at these points appear to be yellower, harder, thinner, less pliant, and more resisting. The transformation commencing immediately beneath the lining membrane, which it never affects, extends outwards through the layers of the middle tunic. The fibres at length are changed into depressed osseous, lines, which uniting, complete the entire circle of the vessel, and extend to various lengths upwards and downwards along its course. When the ossification of the middle tunic is complete, the artery is reduced to the condition of an inert tube, the external and internal tunics which are healthy merely covering both its surfaces. In undergoing this transformation, the middle tunic is diminished in thickness, so that the diameter of the artery becomes actually larger. This account will be observed to differ in several respects from that which has been given of the progress of the atheromatous deposit in the larger vessels. Yet the two changes may appear together.

Mr. Costello makes a curious statement, which we confess takes us rather by surprise.

> " In the course of M. Bizot's researches, he was struck with the fact, that whenever he found a lesion in an artery on one side of the body, the same kind of lesion would in all probability be found at the same point of the corresponding artery of the opposite side. With some exceptions, which might be easily accounted for, this symmetrical development of lesions was so constant, that he does not hesitate to characterize it as an invariable law in morbid anatomy." 388.

We will not say that it is not so, but we own that we doubt if this be true, au pied de la lettre. On the whole, however, M. Bizot's observations deserve attention, and should be put to the test of accurate investigation.

The articles "Traumatic Arthritis," and "Articulations," by J. Blackburn, are written with ability and judgment. From "Asphyxia," by Mr. Bennett Lucas, we are tempted to extract some criticisms on the directions promulgated by the Royal Humane Society for the recovery of persons apparently dead by drowning.

The Society direct, among other things, the application of external heat, and they particularly laud the employment, where it is possible, of the warm-bath. On this Mr. Lucas remarks:—

> " Were the directions here recommended to be implicitly obeyed, the enfeebled vital actions would be in danger of extinction, and the 'apparent death' would soon become real. The temperature of the apartment in which the body is laid, should in general not be higher than 75° or 80°; and Dr. Edwards even recommends in some cases that it should be lower than this. The advantage to be derived from exposing the surface of the body to the vivifying influence of the air is altogether lost sight of, when the body is recommended to be 're-clothed,' 'to be wrapt in blankets wrung out with hot water,' or to be immersed in a 'warm-bath.' Where heat is demanded, its application is therefore preferable in the radiant form, and when *conducted* heat is called for, it should be so partial in its application, as to interfere but little with the exposure of the surface to the 'vivifying influence' of the air. The employment of heat in the radient form also gives us the opportunity of applying friction and other excitants

to the body, and does not interfere with our endeavours to restore life by artificial respiration.

The body should therefore be placed before the fire, or in the sunshine, and bottles of warm water, or warm bricks, applied to limited portions of the cutaneous surface, such as the soles of the feet, or the arm-pits. A proper temperature also may be applied to the spine and back by means of the tin mattrasses filled with warm water, such as were recently used during the prevalence of cholera, in several of the hospitals. By these proceedings the influence of the air on the skin, in rousing the action of the capillaries, and imparting oxygen to the blood, is uninterfered with, whilst friction, the application of stimuli, and, above all, artificial respiration, can be advantageously resorted to.

We have been thus particular in detailing the researches of Dr. Edwards and their application to the human being when in a state of asphyxia, in consequence of the directions of the Humame Society being sanctioned by the authority of others who have treated of this subject. And no matter how great the caution exercised in avoiding the too sudden application of heat, the circumstances of the case must be very peculiar indeed which should warrant us in raising it beyond what we have already recommended, much less to the height of ' 98° or 100°.'" 430.

We cannot help suspecting that the "vivifying influence of the air" has been pitched rather too high, since Dr. Edwards' experiments. Yet, notwithstanding, we are inclined to agree with those who reprobate the warm bath. Independently of its interfering with the action of the skin, the body is a good deal pulled and hauled about in getting it into and out of the bath, and delay and interference with other means result. Then, artificial respiration is managed less easily in the bath than out of it. Taking all these circumstances into the account, (and we speak from practical experience,) we look upon Mr. Lucas's strictures as not altogether unjust, and are of opinion that the Society would do well to revise their recommendations in this particular.

A Treatise on the Causes and Consequences of Habitual Constipation. By *John Burne*, M.D. F.R.C.P. Physician to the Westminster Hospital, &c. Octavo, pp. 257. London: Longman and Co. 1840.

This is a bold attempt. For although Dr. Burne says that "the object of this treatise is to direct attention to habitual constipation as a *very frequent cause* of local and general disorder and disease"—yet the catalogue is so extended, and the above cause so prominently brought forward, that nine-tenths of our nosology would appear to be based on "habitual constipation." However, we shall endeavour to present our readers with the chief features of the work itself, instead of indulging in much criticism.

Chap. I. Is entirely physiological, and requires no notice in a medical journal.

Chap. 2. Mentions some of the inconveniences of constipation.

" Not only does it indispose the mind to exertion and the body to exercise, but it casts a gloom over the spirits, and is productive of that general discomfort which ruffles the temper and embitters the ordinary enjoyments of life." 16.

The excrement, he observes, in its natural state, is consistent, soft, homogeneous, cohesive;—whereas, if long retained, it becomes hard, knotty, friable, and dry—" hence, then, an abundant source of impurity to the blood." Irritation of the colon, by the fæces being too long retained, extends, by sympathy, to the liver and stomach, " and by disturbing their function, impairs digestion."

> " From impaired digestion, there must proceed impure chyle, from impure chyle impure blood; and if impaired digestion, produced and prolonged by habitual constipation, should endure, not for months only but for years, how can we wonder that the whole mass of the blood should become corrupt, or that the solids derived from that blood should be corrupt also? How can we wonder that eruptions should disfigure the body, or that untractable or malignant disease should break forth and shorten life? Can we hesitate then to believe that habitual constipation may be and is one frequent source of general disorder and of local disease?" 18.

Our readers will be inclined to think that this is one of the most easy and accommodating theories that ever was invented. Seven cases are related in illustration. It may be useful to glance at some of these.

Case 1. Was a female, aged 43, who complained of head-ache, flushings, acidity, flatulence, constipation. After stating these symptoms, she shewed Dr. Burne a tumor in the breast, which he considered to be " indolent scirrhus."

> " She was put on a course of alterative stomachic aperient medicine, with a view to regulate the bowels, and improve the general health; but without any special reference to the tumour. She continued under treatment four months, got quite well, and was stronger and better than she had been for some years." 16.

The tumour in the breast had disappeared. Our readers will determine for themselves, whether the removal of the tumour, and of the constitutional symptoms abovementioned, was effected by the mere removal of *constipation*, or by the remedies employed for this purpose, but acting on the whole circle of the chylopoietic viscera.

Case 2. Mrs. C. aged 40, had had constipated bowels for about a year—menstruation regular. Had a tumour in the left breast, as large as an egg, with darting pain and tenderness—there was swelling of the arm to the elbow. Her stomach was disordered, and uneasy after food—sometimes sick even to vomiting—appetite bad—emaciation. Dr. B. suspected scirrhus of the pylorus.

> " A variety of aperients was tried from time to time; those which agreed best and proved efficacious, were the *infusion and tincture of senna* with *créosote*, and pills composed of the *compound extract of colocynth, opium*, and a little *calomel*. The créasote at all times tended to appease the stomach, and caused aperients to agree where otherwise they would have been rejected. Opium was essential in the treatment; and much good resulted from a mild though prolonged course of mercury, the doses being of *calomel half a grain, opium a quarter of a grain*, taken twice a day after meals. When the gums became sore the mercury was suspended for a few days. In this manner both the calomel and the opium, as also the aperients, were persevered in for many months with

great improvement in the health, and the very unexpected subsidence, and ultimately the almost entire dissipation of the tumour in the breast. *Belladonna* in the form of plaster was applied with decided benefit." 21.

Whether a constitutional course of calomel and opium removed the tumour of the breast, and the suspected scirrhus of the pylorus, merely by relieving constipation of the bowels, we leave it to our brethren to determine. We may observe, however, that the treatment of these cases is precisely that which any medical practitioner would employ, who viewed the constipation as merely one of the symptoms in the group, and not the cause of the others. If the constipation were the source of the other phenomena, a course of enemata—of electuary of senna, of sulphur, manna, or other mild aperients, would have been quite sufficient for the purpose.

We shall be able to notice only one more case in this chapter.

Case 3. " *Neuralgia from habitual Constipation.*"

Mrs. G., aged 31, had suffered neuralgic twitches in the neck for some weeks. These attacks were periodical, but uncertain in their returns.

" During the paroxysms, the sensibility of the spot, before described, was so heightened that she could not suffer the air to blow upon it, and the slightest touch gave excruciating pain. She had *risings in the throat*, was subject to heats and flushings, to heaviness of the head and other ailments, which it is unnecessary here to detail. Habitually, she was very costive, seldom having dejections without the aid of medicine.

She was instructed to take *five grains of blue pill every night, and the carbonate and sulphate of magnesia with the compound decoction of aloes twice a day.* These medicines kept the bowels freely open; and in the course of five days the neuralgic pains had abated very much, only one paroxysm having occurred during this period. The same treatment being continued, with the addition of *one grain* of the *sulphate of zinc* twice a day, the pains as well as her other complaints, were soon removed entirely." 25.

We submit that, in this case, there is not the slightest proof that " Constipation " was the *cause* of the neuralgia. Why did Dr. B. exhibit blue pill, and ultimately zinc, for simple constipation? It is pretty evident that this female was hysterical, and the active treatment pursued was calculated to rouse all the abdominal and even the pelvic organs into activity of function, and thus cure the complaint. We commend the practice, but we demur to the theory. Other cases where epilepsy, spasms, trismus, &c. are supposed to have arisen from constipation, are given by the Author.

CHAP. 3. Treats of the consequences of constipation on the general health, under two heads or stages.

Stage the first.—Young females suffer from these consequences more than the older classes.

" Constipation persisting, there soon manifest themselves the primary signs of alvine difficulty; namely, drowsiness and heaviness of the head. Then will be seen in many a darkness under the eyes, while the face is leuco-phlegmatic; or, if the temperament is sanguine, there will be an extraordinary flush of apparent health. To the heaviness of the head is, by and by, superadded pain of various character and situation; it may be an aching, a beating, or a throbbing pain in the forehead or temples, or over one eye, with a sense of great weight or giddiness. Flushings of the face occur, and transient heats over the whole body, though the feet are, at the same time cold. The drowsiness increases; they find it difficult to rouse themselves to any kind of exertion. On going to bed they fall instantly into a sound sleep, which proves heavy but not refreshing; for, on awaking in the morning, they feel tired, unwilling to leave the bed, and if they do not get up at once, sleep quickly overcomes them only to increase the sense of fatigue when they awake again. Menstruation will, in some, continue regular in the midst of this disorder, particularly in constitutions of a rigid fibre; while, in those of a lax fibre, it is often deficient or suppressed; and, in those of a sanguine temperament, abundant even to menorrhagia. Leucorrhœa seldom fails to supervene. The urinary secretion is apt to be copious and colourless; and flatulence in various degrees attends, although the digestion is not much, if at all, impaired." 35.

Those who have attentively watched the *habits* of civilized society—and especially of young females, will be at no loss to assign numerous *other causes* for the train of symptoms above enumerated, than mere constipation of the bowels. The sedentary habits, the late hours, the over-working of the brain, the improper food, &c. &c. leaving aside the tight stays, are amply sufficient to induce the phenomena detailed in the foregoing extract —and constipation into the bargain. Three cases are related in illustration of this first stage of constipation; but they present no satisfactory evidence of the truth of Dr. Burne's theory—though the practice pursued is entirely unobjectionable.

Second Stage.—Here the consequences of constipation become formidable indeed; and if many of the sedentary folks of this country, male as well as female, peruse the following passage, they will greatly promote the sale and increase the price of jalap, rhubarb, and castor-oil.

"The determination of blood to the head which, in the first stage produces drowsiness by day and heavy sleep by night, now gradually increasing with the prolonged existence of the cause, interferes at length with the functions of the brain. The mind becomes irritable, apprehensive; noises jar, distract the brain, and strong light overpowers the eye, while at the same time the delicate sensibility of these organs is dulled by the cerebral congestion, and the senses, though morbidly alive to great impressions, are no longer adapted to acute and nice perception. There is, in addition, pain in the head generally, greater in a particular part, as on one side; often of a distracting character, giving sometimes the sensation of the brain opening and shutting; and sooner or later the person falls down in an apoplectic fit. I have known many of these cases, some occurring in persons of a florid complexion and gross habit of body; some in individuals pale and thin; but, in all, there has existed for years the common cause, an obstinate and difficult state of the bowels." 40.

Nine cases are detailed in illustration. Among these are fatal apoplexy, head-aches, indigestion, hypochondriasis, leucorrhœa, prolapsus ani, hemicrania, irregular menstruation, &c. Case 12 in this chapter is very unsatisfactory. A female, aged 55, had been costive almost all her life. She was corpulent and florid. She had " distracting pain in the head, with sense of fulness, and flushings of the face." She fell down in a fit of apoplexy, and died.

Now as there was no *post-mortem* examination, who can say what was the cause of the apoplexy? An organic disease may have been going on for a dozen years; and yet the case is, without hesitation, headed thus: "Apoplexy from Constipation." Surely this is not the kind of evidence that ought to be brought forward by a learned, talented, and experienced physician, as Dr. Burne is.

CHAP. IV. "*Sick Head-ache; or Gastro-Hepatic Irritation, Sympathetic of Habitual Constipation.*"

> "An attack of sick-headache comes on for the most part suddenly. A lady, having gone to bed as well as usual, will awake in the morning with a sense of great weight in the head and pain in one temple, or over one eye; or, she may be seized with these symptoms at any period of the day; in which case she is obliged to retire to bed. After the pain has continued a few hours she grows sick, then vomits, throwing up quantities of greenish yellow bile and mucus. The vomiting recurs at intervals and the stomach remains irritable, ejecting every thing and resisting the influence of medicines of known efficacy in other cases of gastric irritation, till, at the expiration of twenty-four hours, the sickness and vomiting diminish and aperient medicines are retained, *which in due time act upon the bowels, when the headache, sickness, and vomiting pass away.* The individual soon regains her usual state of health, which continues without any material interruption till she is overtaken by another attack." 49.

The description here is faithful enough; but the sentence which we have marked in italics, though very favourable to the author's theory, is positively incorrect. The head-ache and sickness, in nine cases out of ten, subside *entirely*, at the end of 16—20—or 24 hours, before any action takes place in the bowels. Almost every person who commits a debauch, to which he is not accustomed, or drinks bad wine, will awake with this sick head-ache, and it will run its course, and disappear, whether he takes opening medicine or not. The periodical sick head-aches, to which so many females are subject, have much obscurity in their nature—and although systematic aperients are essential to their removal, we seldom find them sufficient, unless combined with tonics and alteratives. We know many people who have them, and whose bowels are perfectly free from constipation. They have often appeared to us to be connected with malaria—latent gout—irregular menstruation. We see no objection to the following therapeutic measures.

> "When a paroxysm is fairly set in, medicine will be of little avail; the headache and vomiting will persist in spite of *creasote, opium, hydrocyanic acid, effervescing saline aperients*, and the like; either and all of which will generally be ejected from the stomach, and the symptoms continue their usual period of from 24 to 72 hours. It is of importance, however, to bring about a free action of the bowels as soon as possible, to which end *colocynth, calomel*, and *opium* may be given. The cathartic pills should soon be followed by a *senna and salts draught*, which, if rejected, may nevertheless, as also the pills, be repeated once in eight hours till they have operated freely. Where the constipation is very great, the action of the above medicines should be facilitated by lavements." 55.

Dr. B. depends mainly on a regular course of aperients in the intervals, by way of prevention. We have found arsenic and quinine sometimes necessary. A course of taraxacum is often useful.

CHAP. V. "*On Diseases of the Stomach, as Consequences of Habitual Constipation.*

The catalogue in this chapter comprises indigestion—gastrodynia—pyrosis—"subacuto-chronic" inflammation and organic disease of the stomach.

The following passage is reasonable.

> "I do not advance the opinion that habitual constipation is the exclusive cause of the above affections, but that it is the most frequent: a point I urge the more, that, in the treatment of these affections, remedies may be directed to the relief and removal of the constipation, as an essential and chief means of relieving and removing the disorders of the stomach. Not that, in the majority of instances, attention directed only to the relief of the constipation will suffice and supersede all other treatment; for effects, when of long standing, will often persist independent of the original cause, and require means specially adapted to them. Where, however, the cases are recent, the gastric symptoms will yield to, and be entirely removed by, attention to the bowels: as will be shown by instances to be adduced." 58.

Dr. B. excepts "indigestion" from the diseases "most frequently" produced by constipation. And well he might. For a great number of those who labour under its most violent forms, would tell Dr. Burne, that, the only ease they have is, when their stomachs are empty and their bowels firmly constipated.

The other complaints above enumerated, are lightly touched upon, and traced, in great measure at least, to constipation. Wherever torpor of the bowels can be discovered among the symptoms of a case, that phenomenon is singled out as the original mischief-maker. Doubtless it is often to blame—or rather its causes; but a certain personage is seldom so black as he is painted. The article on pyrosis, however, is one of the best in the work, though tinctured with the favourite hypothesis of the author.

The following passages will convey a good idea of Dr. Burne's opinions respecting the nature and causes of this troublesome complaint.

> "The history of cases of pyrosis, traced through their several stages from the first symptoms of disordered stomach, will, I think, show that, when pain in the stomach occurs and continues to occur from the presence of food even in moderate or small quantities, there is not merely a heightened organic sensibility of the stomach depending on irritation, but on a subacute inflammation." 63.

Dr. Burne does not believe that the fluid, in pyrosis, comes from the fauces and œsophagus.

> "In all cases where the stomach labours after food; where uneasiness, distress, or absolute pain is pretty regularly experienced, though the quantity of food be small, and the quality not unwholesome, there is a heightened condition of the organic sensibility dependent not on a state of irritation merely, but on actual inflammation; subacute, however, in degree, chronic in duration; and therefore subacuto-chronic. And if, in addition, nausea supervenes, and finally vomiting, there is reason to suspect not merely the presence of an inflammatory congestion, but of an absolute organic change; a suspicion strengthened at this time by the gradual diminution of the blood, and the decided loss of flesh, constituting a condition of universal anæmia and atrophy." 79.

In this passage it would appear to us that Dr. B. has confounded two stages of the complaint—the first stage, irritation and morbid sensibility of the stomach, with the second, where inflammatory action supervenes on irritation.

The cause of pyrosis and gastrodynia is considered by Dr. Burne as being, in a great majority of cases, "habitual constipation."

> "*The Treatment* which I have pursued and found successful,—not only in relieving but in curing gastrodynia and pyrosis,—has been based on the pathological views just set forth; and conducted on the principle of restoring the natural function of the bowels,—of appeasing the irritability of the stomach,—of subduing the subacute inflammatory action,—and of removing, as far as possible, its consequences on the tissues of the stomach. The means adopted have been *calomel, opium, the local abstraction of blood, counter-irritation, and appropriate aperients.*" 85.

We need hardly remark that this would be the treatment pursued, if any other theory had been adopted. It is just as appropriate for chronic hepatitis, as for the pyrosis, but then chronic hepatitis would itself be put down by Dr. Burne as caused by "habitual constipation."

> "The calomel has been given in the dose of *half a grain* and the opium of *a quarter of a grain,* twice a day; namely, after breakfast, and after dinner. At these periods the opium reconciles the stomach to the presence of food, and the calomel acts gradually as a mercurial. The dose of mercury is small in order that it might not salivate too soon; time being required to remove diseases of long standing. The effect of this combination is most happy: and success attends the treatment of almost every case which admits of recovery. The medicines are persevered in for many weeks; unless the gums become affected, when the calomel is omitted, but the opium continued. Opium was a favourite remedy of Cullen, has been adopted by others, and is an essential part of the treatment: though, when given alone, it is only palliative, as candidly stated by Cullen." 85.

Chap. VI. presents us with a frightful catalogue—"the consequences of habitual constipation." "Hyperæsthesia and hypertrophy of the womb, dysmenorrhœa, menorrhagia, amenorrhœa, leucorrhœa, abortion, miscarriage, supposed pregnancy"—these are among the effects of constipation of the bowels! It is but justice to the author to say, that he does not allot constipation as the sole and invariable cause of the above maladies; but that it ought "to be recognized as one very frequent—*perhaps the most frequent* cause." Sir Charles Clarke recognised it as "a coexisting symptom requiring attention in the treatment," but never dreamt of regarding it as a frequent cause of such various maladies. It is needless for us to go over the list of cases brought forward by our author, as in all of them "constipation" was discovered to exist, or to have existed—and, as a matter of course, it was selected as the *cause.* But the moment the reasoning ceases, Dr. B. dismounts from his HOBBY, and treats each case exactly as any judicious and observant practitioner would do, leaving his little hobby to browse at will on the neighbouring common, till he whistles for him again.

Chap. VII.—To this chapter we have no objection, either in theory or practice. It treats of those complaints which are regarded by all practitioners as frequently caused by neglected attention to the bowels. These are colic, diarrhœa, dysentery (?), ileus, accumulation of fæces, obstruction, displacement, inflammation, ulceration, hypertrophy with induration or contraction, stricture. The following short case we shall quote. We fear the mistake that took place at Leamington, occurs every day in other places!

> "A gentleman about 35 years of age, of spare habit and nervous temperament, was harassed by an irregular state of the bowels, they being generally much confined. At times he would be affected with colic pains and frequent inclination to retire to the closet, the dejections being scybalous, scanty, and mucous; which nevertheless impressed him with the belief that his bowels were absolutely relaxed; the contrary in fact being the case. His health being weak and disordered, he set out on an excursion to Leamington, and, while on the road, the colic pains increased so considerably that it was with difficulty he reached the end of his journey,
>
> Arrived at the hotel, the pains were become most violent, and the gentleman excessively ill. Advice was obtained, and blood to a large amount abstracted under the notion of inflammation; medicines also were administered without relief. The pain persisted in all its intensity, and extinguished life in the course of sixteen hours. The body was opened and the colon discovered to be loaded with hardened feces; without any evidence or trace of inflammation." 110.

Another case is given where a fainting fit, from colic, was mistaken for epilepsy!! In the following passage we entirely agree with Dr. Burne.

> "No greater error in medicine can be committed than the relying upon a single sign as indicative of a disease, which, when present, is evidenced by several. Inflammation is manifested not by pain alone, but by other signs co-existing; and therefore, when these other signs are not present, it may safely be concluded that the pain does not result from inflammation, but from spasm, or neuralgia, &c.
>
> Remarks of a similar tendency apply to the cases of syncope, and to the possibility of mistaking them for epilepsy. Syncope is a sudden seizure from an accidental cause. Epilepsy has always premonitory and precursory signs; and, besides, the fit itself is so different from syncope, that it is only to recollect that epilepsy is attended with convulsions, foaming at the mouth, and congestion of the face and head, in order to distinguish it most readily from syncope, where there is a death-like stillness and pallor." 113.

CHAP. VIII. Is on "diseases of the rectum as consequences of habitual constipation."

This chapter requires no particular notice. We see nothing objectionable; and many of the cases detailed by the author or contributed by his friends are important. The following case from Dr. Roots, contains no bad satire on HOBBIES. Sat verbum.

> "A medical practitioner under my care for general indisposition, which may not improperly be called 'a breaking up of the constitution,' from long-continued sensuality, happened to dine at the house of a friend who had been under treatment for a stricture. This friend had derived so much benefit that he strongly advised the practitioner to consult *his* surgeon. He did so; and his complaints were at once pronounced to arise from a stricture. All this he told me when I next saw him, expressing at the same time his satisfaction and belief that his disease had been discovered. 'Well,' said I, 'this I cannot understand! You have never had symptoms of stricture, for your bowels have acted regularly every day. Let the surgeon meet me at your house, and, if there is stricture, it will

be obvious to me as well as to him.' We did meet. The surgeon produced a long rectum bougie, twisted it like a corkscrew, and examined the rectum; but no evidence of stricture could he afford me. The surgeon, however, persisted in his opinion that a stricture was there; and affirmed, moreover, that he could distinguish the presence of a stricture ten or twelve inches up the gut by means of the bougie. Of this I was sceptical: and left the case in his hands. The bougie treatment was persevered in, and the patient in high spirits at the prospect of cure.

In a few weeks I was requested to see the patient again. The imagined relief from the bougie had ceased with the novelty; and finding, in sad reality, that he grew worse instead of better, and remembering that he had never experienced any difficulty in the action of the bowels, he had now persuaded himself that he had *not* a stricture, and had, accordingly, declined any further mechanical treatment. He died, soon afterwards, of a sudden and severe cerebral attack; and permission having been granted to examine the body, I apprised the surgeon of it, and requested his assistance. No stricture nor trace of disease could be discovered, either in the rectum, colon, or intestinal canal." 150.

Chap. IX. Treats of "cutaneous diseases as consequences of habitual constipation," and embraces the consideration of erysipelas, erythema nodosum, psoriasis, impetigo, and acne. Our author does not pretend that all kinds of erysipelas result from constipation, but only one particular kind, seldom attended by danger, and generally affecting one side of the face. It is gradual in progress—less intensely red, and hot, and hard than phlegmonoid erysipelas, unaccompanied by pyrexia.

Chap. X. We now come to the subject which stands foremost in the title-page of the work—the *causes* of constipation. Inattention to the calls of nature, so prevalent among all classes, but especially among females, is placed in the first rank by Dr. Burne. The inconvenience or want of comfortable water-closets is strongly dwelt on by our author—particularly on the Continent. The "lieux d'aisance," however, are much better regulated now than formerly, among all the hotels frequented by the English.

Civilization and refinement contribute not a little to "habitual constipation," by overworking the brain and underworking the limbs. Grief and anxiety have a peculiar influence over the bowels, producing constipation in the majority; but relaxation in some individuals.

> "The anxiety of mind too arising out of an advanced state of civilisation has a great influence on the functions of the alimentary canal; not merely in causing indigestion, but in rendering torpid the peristaltic action of the intestines. Look at the multitude of anxious faces one meets daily in the streets. Think for a moment on the contentions, competitions, and responsibilities that men have to encounter, and we shall not be surprised at the load of anxiety that oppresses the greater part. This anxiety depresses the energy of the nervous system and of all the organic functions. The powers of the stomach become languid, and digestion is imperfect; the liver becomes sluggish and the supply of bile is defective; and the peristaltic action of the intestinal canal grows slow and retards the excretions: and thus do affections of the mind produce languor, indigestion, constipated bowels, and all their consequences." 167.

The sedentary habits of females, artisans, lawyers, merchants and various other classes, strongly conduce to constipation of the bowels. Travelling by sea or land usually induces costiveness; but this kind of constipation seldom produces any mischief, the exercise and change of air counterbalancing the inconvenience of costive bowels. Dr. B. runs over the pathological and mechanical causes, including inflammation, spasm, or other affections of the alimentary canal—laxity or debility of the muscular fibres—torpor of the liver and paucity of bile—diseases of the brain—abnormal secretion or discharges from other parts of the body diminishing the succus intestinalis, as in diabetes for example. Then the mechanical causes may depend on stricture of some part of the canal—organised bands crossing the gut—accidental adhesions or displacements. The accumulation of balls in the bowels—as of magnesia, chalk, &c. The carbonate of iron in our own practice, has been found blocking up the rectum, and causing great distress. Dr. Paris found balls of cubebs in the bowels—and the white mustard seed is notorious for forming these accumulations. The egg-cup found by Mr. Dendy in the ileum of a man is amongst the most extraordinary—perhaps, however, not more so than the knives found in the stomach and bowels of a knife-eater.

CHAP. XI. is on the treatment of constipation. There are various means besides merely aperient medicines, which tend to counteract this troublesome disposition. Mild means, in such cases, are generally better than rough remedies. Dr. B. relates a case of obstinate constipation cured by goat's whey in Switzerland. Although as a general rule, the bowels ought to be opened once in twenty-four hours; yet there are numerous exceptions, where people in health have three or four motions daily, whilst others require only one evacuation every three, four, or five days. These peculiarities should always be taken into consideration.

Regimen.—Early rising favours regularity of bowels. About eight hours for rest, or one third of our existence in bed, is a normal quantity of sleep—though few can pass all that time in a state of temporary annihilation.

> " It is the lingering in bed, the going to sleep a second time after having enjoyed a good night's rest, that does the mischief. A person awakes refreshed, light, cheerful: but if, instead of at once getting up, he dozes off to sleep again, he afterwards rises with unwillingness; and finds his head heavy, his spirits dull, and his bowels indisposed to act." 197.

Habit.—We are creatures of habit, and we know many people who, by dint of habitual application to the temple of Cloacina for relief, have at length obtained it permanently.

Exercise immediately after breakfast is beneficial; but alas! how few are able to devote the forenoon hours to anything but business or study! A change from town to country, or even *vice versa*, will sometimes produce a change in the action of the bowels.

Diet, however, is the main counter-acter of constipation. A glass of cold water early in the morning has often given a stimulus to the bowels. Coarse brown bread often suffices for this purpose. Figs, prunes, mustard seed, ripe fruits and vegetables have been advantageously employed by many people. Boiled or broiled bacon for breakfast is a popular remedy, and not without considerable effect.

> "Like the other articles which have been enumerated, bacon, particularly broiled, should not be taken daily for too long a period, or it may recoil upon and satiate the stomach. It is better to vary diet from time to time, and to endeavour, by the judicious and alternate use of the several means described, to bring about and retain the natural function of the intestinal canal. Trivial and unimportant as these means may appear, they nevertheless exercise a decided and beneficial influence, and will often go far to re-establish the health, which has been much disordered by habitual constipation." 200.

Aperient Medicines.—Dietetics will often fail, and the doctor is applied to at last. A great number of patients appeal to this personage for the means of keeping their bowels open without having recourse to medicine at all—and where they will take very small pains themselves in respect to diet. Dr. B. justly observes, that the restitution of function in the alimentary canal is not to be obtained by *purgative* medicines, which too often leave the bowels more torpid than before their operation. But we have not found it so easy a matter to find other aperients—"which operate equally well and leave the bowels disposed to their natural functions." This would be, indeed, "a desideratum of the first importance."

> "The medicines prescribed are pretty uniformly the same; colocynth and calomel, or a 'black dose' of senna and salts, being the ordinary resource. They purge the bowels but distress the patient; and leave him equally or more liable to constipation.
>
> In speaking thus, let me not be understood as speaking too generally: the exceptions to the remark are many, but it will, I apprehend, be admitted that the system of giving single aperient or cathartic doses, rather than of pursuing a systematic course of laxative treatment, prevails." 202.

Aperients must vary according to the age as well as the temperament of individuals. In childhood, castor oil and senna are generally proper, where there is merely constipation, unattended by any of those disorders which arise from the same causes that produce constipation. In advanced life the more active and resinous aperients are necessary, as colocynth, aloes, gamboge, scammony, &c. Aperients must also vary on account of accidental local affections, as piles, irritation of bladder, uterus, or kidneys, &c. For habitual constipation, unaccompanied by other disorder, there are few things better than a dinner pill of from four to ten grains of the pil. rhei comp.—or four or five grains of the root of rhubarb chewed before dinner. Dr. B. gives us a running commentary on the various individual aperients, containing judicious remarks that will be very useful to the non-professional invalid, but which need not be noticed here. He has a section on the bougie —lavements—and suppositories. Dr. B. thinks, and we agree with him, that the bougie might be much more frequently used than it is at present. Putting aside the quackeries of the rectum doctors, we have seen very excellent effects result from the bougie, where there was tendency to stricture, whether spasmodic or organic, of the gut. The dilatation of the rectum seems to act by sympathy on the whole line of the colon, and often to produce an evacuation, which would not otherwise take place. The irritable sphincter ani, a complaint by no means uncommon, is greatly relieved by the bougie.

With Dr. Burne's observations on lavements we cannot quite agree. From personal and general observations of thirty years, we can speak favourably of these means, and confidently.

> "As a means of obviating habitual constipation they are employed by some persons daily, with the effect of exonerating the large intestine more or less. However efficient they may, in this respect, appear to be, I have found, from long observation, that they are not free from very great objection. In the first place, they do not continue to relieve the bowels fully and freely for any length of time:—in the next place, they do not dispose the bowels to resume their natural action, but, on the contrary, render them more confined:—in the third place, they wash off the mucus from the intestine, which is followed by a degree of irritation and an unpleasant sense of heat, very similar to that which occurs after washing the hands in water simply:—in the fourth place, the fæces become more scybalous and hard under their use:—and lastly, the individual does not feel the comfort or conviction of having had his bowels fully relieved; on which account he is often induced to resort to a second lavement on the same day. Lavements fail in completely obviating or curing habitual constipation." 230.

From experience much longer, and, we apprehend, much wider than Dr. Burne could possibly have, we hesitate not to aver that most of the above objections are greatly magnified, and some of them are of such rare occurrence as to be quite unworthy of notice. How is it that the French, Germans, and other continental people use lavements all their lives, without these inconveniences, and with the happy effect of saving themselves oceans of draughts and bushels of pills? We have not found the fæces become "hard and scybalous" from the use of injections—nor will the mucus of the bowels be washed away by warm water, which ought always to be used. Few people in this country, at least, know the best mode of employing lavements. The operation should take place either in the water-closet, or in the bed-room with the commode at hand. The pump should be plied till a strong nisus for evacuation occurs, whatever be the quantity necessary. Then there is a quick, copious, and complete clearance of the colon. The throwing up of a pint or even two pints into the bowels, waiting for the nisus a quarter or half an hour, is quite unnecessary and not so effectual as the plan related. Even the continentals are very mistaken on this point. They think they cannot retain the lavement too long—and the consequence is that, not very unfrequently, it is not thrown off at all. The bowel should be distended till the contraction commences.

> "Lavements are nevertheless an excellent *occasional* resource; where, for example, a person has been disappointed of his usual evacuation, or where he is unable, in consequence of his engagements or of other circumstances, to take an habitual aperient, lest it may act at an inconvenient moment. In this case a lavement used in the morning relieves the bowels for the day, and is a great comfort. Or if, while travelling, the bowels become unusually constipated, and yet it is not convenient or scarcely possible to venture on medicine sufficiently strong to act, then a lavement is of essential service, and often prevents absolute indisposition, as I have myself witnessed." 230.

This passage goes far to neutralize the tendency of the preceding one.

Dr. B. objects to warm water as an enema. Cold water injected into the bowels would, in two cases out of three, produce disagreeable colic, and not act properly after all.

The last or twelfth chapter is a kind of resumé or analysis of Mr. Annesley's "Observations on the causes, nature, and treatment of the more prevalent Diseases of India," of which excellent work we have inserted numerous notices in this Journal.

As we have said more than once in this article, we find little or no fault with Dr. Burne's practice in the various diseases enumerated. On the contrary, we think it judicious and discriminating. But we must be excused for demurring to his *theory*. We cannot coerce our opinions or rather convictions on that point, and we state our objections with every possible respect for the talents and acquirements of the Author.

ON DISEASES OF THE BLADDER AND PROSTATE GLAND. With Plates. By *William Coulson.* Second Edition, greatly enlarged, 8vo. pp. 258, four plates. Longman and Co. 1840.

We had occasion to notice, and in very favourable terms, the first edition of Mr. Coulson's work. The speedy appearance of the second, is as gratifying to us, as it must be to the author, a gentleman possessed of great zeal for his profession and well acquainted with the class of disorders to which he has devoted his attention.

The present edition is much augmented both in size and value. Mr. Coulson remarks in his preface to it:—"My chief object in the former edition, was, to establish clearly the distinction between the inflammatory diseases which attack the several coats of the bladder. It appeared to me important that these affections should not be confounded under the general character of inflammation of the bladder, as not only are they distinguished from one another by their symptoms and progress, but as each of them requires an essentially different plan of treatment.

Since the publication of my former edition, I have availed myself of the increased opportunities which have occurred to me, to follow up my investigations of the subject, and they have not in any way altered the practical conclusions which I formerly attempted to draw. I have endeavoured to render my present edition a more complete work as to the diseases of the bladder; and I have added three chapters on the affections of the prostate gland, which are so closely connected and so often confounded with those of the bladder."

Having given an ample account of the contents of the first edition, we shall only allude to the *new* matter in the second. That will be chiefly found in the first chapter (on urine); in the ninth (on spasm of the bladder); and in the thirteenth, fourteenth, and fifteenth, (on the affections of the prostate gland.) The chapter on urine we pass over, and proceed to that on:—

SPASM OF THE BLADDER.

Mr. Coulson contends that the bladder, being muscular, must, *ex neces-*

sitate, be liable to spasm. He describes, as follows, the symptoms that characterise it :—One of the foremost, he says, of these is the circumstance that the disease comes on in fits, and the attack is for the most part sudden: the character of the accompanying pain is likewise diagnostic—it is constrictive, corresponding with what is felt in other muscular organs subject to spasm. The pain is usually very violent, almost insupportable; and, during the continuance of the spasm, the peculiar function of the bladder is variously disordered, according to the particular set of fibres involved in the morbid affection. For example, if the fasciculi situated at the fundus and upper part of the bladder be the chief seat of the spasm, then it often happens that the contents of the bladder are suddenly and forcibly expelled on the first accession of the spasm: whereas, if the disease seizes on the neck of the bladder, the very reverse ensues—the urine is retained so long as the spasm persists. Mr. Coulson observes that spasm of the bladder is most likely to be confounded with inflammation of its mucous membrane, but the circumstances we are about to mention, are, he thinks, sufficient to distinguish them.

> " In inflammation, the pain is constant, coming on with more of uneasiness than of positive pain, and exasperating by degrees; while in spasm, the seizure is as severe as it is sudden. In the former, the pain has the characters usual in inflammations—it is lancinating and throbbing; whereas in the latter, it is, as I have already observed, constrictive, resembling, in fact, labour-pains—for these also result from the spasmodic contraction of the muscular fibres of the womb in promoting child-birth. In both there usually is retention of urine, but the cause in each case somewhat differs; in spasm, seated about the neck of the bladder, the spastic contraction of the sphincter vesicæ prevents the urine from being evacuated; in inflammation of the same part, on the other hand, it is the tumefaction of the mucous coat and subjacent cellular membrane that is the cause of the obstruction. A distinction between spasm and inflammation affecting the bladder, may be partly deduced from the age of the patient, corroborative of other more positive indications, seeing it is the young and robust that are most liable to be attacked by inflammation, and the aged, the nervous, and debilitated that are most subject to spasm. The colour of the urine in the two cases is likewise a diagnostic; since in the former disease it is red and high-coloured, while in the latter it is watery and pale, especially if there be no organic affections, at the same time, in either the bladder, uterus, or kidney." 153.

In some unequivocal cases of inflammation of the bladder, which we have had an opportunity of witnessing, the pain was not of the lancinating or throbbing character, but was usually dull and heavy, as, we believe, the pain in inflammation of mucous membranes is disposed to be. In those cases too, spasm, at least of the neck of the bladder, was a never-failing concomitant; and it appears improbable that retention of urine should depend on tumefaction of the mucous membrane at the neck of the bladder, without spasm—so apt to occur is the latter. The difficulty is to separate the symptoms of inflammation from those of spasm, because the former is prone to give occasion to the latter. *That* is much more likely to exist without the former, than the former without *it*.

A " fit of the stone," is only a violent paroxysm of spasm, attended with great pain from the irritation of the calculus. The spasm sometimes extends to the rectum, and it expels its contents suddenly. At other times, says

Mr. Coulson, the spasm shuts up the orifices of the ureters, and thus prevents the urine secreted by the kidneys from finding its way into its natural receptacle, the bladder; in consequence of which, the ureters and pelves of the kidneys become greatly distended, accompanied by severe pain in the loins and down the thighs: but the most frequent line of the spasmodic extension is along the course of the urethra, indicated by the violent pain felt in the whole length of the passage; and there is a constant desire to void urine without the ability. We need not add that the spasm itself does not, probably, extend beyond the muscles of the bulb, the uneasiness anterior to that being sympathetic in its nature.

Violent attacks of spasm are apt to end in inflammation, or in exhaustion of the patient. The retention of the urine is, of course, a serious evil.

> "It is at times sympathetic of hysteria; and when it has been so, I have known it to be mistaken for inflammation, and the treatment adopted has consequently been most pernicious: indeed, I knew one patient who, from the long-continued erroneous treatment pursued, was reduced to the utmost extremity; for, as the plan of cure was the one most certain to increase the nervous irritation, the attacks of spasm were the more frequent the longer it was continued." 155.

If, of frequent recurrence, it may terminate in paralysis.

Treatment.—This will necessarily vary with the cause that has given birth to it. If conjoined with inflammation, the remedies adapted for that state must be employed.

> "If there be reason to believe the affection to originate in a gouty diathesis, or to owe its presence to a suppression of a paroxysm of this disease, while we endeavour to allay the symptoms affecting the bladder, we are to strive at the same time to induce the gout to make its appearance; for which purpose we should apply sinapisms to the feet, and blisters to the calves of the legs. The operation, indeed, of the latter affords, as Soemmering has already observed, a diagnostic peculiarity, from their often proving most beneficial in the removal of a morbid state of bladder, which otherwise they are so apt to induce. Among the palliatives of the symptoms affecting the bladder, I have found none more efficacious than a combination of colchicum, opium, and camphor, or hyoscyamus. As soon as we have got rid of the arthritic strangury, we are to direct our attention to the systematic treatment of the disease, to avert its recurrence." 156.

The rule, then, is to determine the cause of spasm, and, so far as possible, to remove it. For the spasm itself, opiates, by the mouth, by enema, or by suppository, are the best medicines. In all cases, the introduction of instruments ought to be sedulously shunned, unless, says Mr. Coulson, where it has become necessary to ascertain whether there be stone in the bladder or not; and unless, we would add, there is retention of urine, unconquerable by any other remedy.

Mr. Coulson observes that, for spasm of the bladder proceeding from sympathy with some contiguous organ that derives its nerves from the same source, the tinctura ferri sesquichloridi often proves of great service. The sphincter vesicæ is commonly the seat of the spasm, and with it we consequently have retention of urine. The operation, therefore, of the remedy appears to be purely antispasmodic, and its influence frequently is almost immediate. The usual mode of administering it is to give from fifteen to thirty minims every quarter of an hour until the spasm yields.

Mr. Coulson speaks favourably of a poultice containing powdered camphor, applied to the perineum—or a liniment of camphor and opium. We think such applications generally disappoint; those which contain belladonna are most effectual, yet *they* commonly fail. We have found more advantage from cupping on the perineum. We quite agree with Mr. Coulson in his reprobation of tobacco—a dangerous medicine; and we agree with him, too, in the necessity of being on the watch for inflammation.

An interesting chapter.

AFFECTIONS OF THE PROSTATE GLAND.

1. *Acute Inflammation.*—Mr. Coulson enumerates the symptoms thus:—heat and pain in the perinæum, near the anus; frequent micturition; tenesmus vesicæ; intense scalding in making water, which is increased as the acceleratores urinæ contract to expel the last drops of urine. Evacuations from the bowels also cause great uneasiness, and there often remains a sensation as if the rectum was not completely emptied, giving rise to distressing tenesmus. If the finger be introduced into the rectum the gut feels hot, and sometimes the prostate is felt as a smooth, round, and hard body, projecting downward on the bowel, which the pressure made by the finger renders exceedingly painful. A catheter or sound, when it reaches the prostatic part of the urethra, occasions acute pain, and severe spasmodic contractions. The symptoms are aggravated in the sitting or the standing posture.

The inflammation is prone to extend to the mucous membrane of the bladder, when the urine becomes mucous, perhaps bloody. Retention of urine "frequently succeeds;" indeed we have seen no cases of inflammation of the prostate, in which there was not retention of urine, more or less.

The causes of acute prostatitis are the pressure or irritation of vesical calculi—"the morbid secretions proceeding from vesical catarrh, or from a diseased kidney, which directly or indirectly act upon the prostate, and excite inflammation either in its follicles, or in the cellular tissue that envelops them"—strictures in the urethra—the improper use of instruments, particularly of small metallic ones, (we are convinced that a large proportion of urethral, if not vesical alterations, are created by injudicious or unskilful surgery)—gonorrhœa—the use of the gum resins and injections for gonorrhœa, pushed, we may add, during the inflammatory stage—abuse of venery, or of diet—exposure to wet and cold—French writers say, strong coffee—cantharides—excessive riding.

If resolution occurs, the symptoms, of course, subside; at the same time, the liquid secreted by the follicles of the gland augments in quantity, and, mixing with the urine, in the form of a whitish or greyish viscid matter, settles at the bottom of the vessel without adhering to its sides, having a good deal the appearance of pus imperfectly elaborated; and this matter disappears in its turn.

The treatment will necessarily be antiphlogistic, and active in proportion to the acuteness of the inflammation, and the vigour of the patient. Mr. Coulson remarks that "in many cases the secretion of urine is considerably augmented. In young persons, however, it will be unnecessary to introduce a catheter, except when suppuration is about to take place, and there is retention of urine;" but, if we may trust our own observation, retention of urine, or, at all events, incomplete evacuation of the urine, is so common in cases of inflammation of the prostate, that the catheter is usually necessary.

When rigors, and other indications of suppuration, present themselves, a careful examination should be made by the rectum, in connexion with inspection of the external swelling. The matter may be discharged into the urethra, or the bladder, or the rectum, or the pelvic cellular tissue, or the perineum.

> " If the abscess opens into the urethra, a very copious purulent discharge instantly manifests itself from that passage: the urinary discharge is accompanied, but more frequently preceded or followed, by the evacuation of a large quantity of phlegmonous matter, the specific gravity of which is much greater than that of the urine and the vesico-prostatic mucous products.
>
> It is desirable that the matter of the abscess should find its way neither into the rectum, the urethra, nor behind the bladder, which may be fatal, but should pass to the surface, in order to discharge its contents more freely, and heal more readily. We must not, therefore, hesitate, where fluctuation can be discovered, to make a puncture with a lancet, without waiting its presenting at the surface. The slight bleeding which ensues under such circumstances does good, and an abscess, either artificially or naturally opened in this way, heals with little difficulty; which may be further promoted by the internal use of sulphate of quinine, steel, or other tonics.
>
> Should the disease have anticipated the operator, and the abscess have opened in the perinæum or the rectum, nothing can be done beyond maintaining the general health. Should the abscess have burst into the urethra, or at the neck of the bladder, it would be better to allow a flexible catheter to be retained in the canal, until there is reason to believe the abscess is healed, than to practise its frequent introduction. Most commonly the matter gradually diminishes in quantity, and ceases entirely after a time. In other instances the discharge disappears for a time, and then comes on, and this may occur several times before the patient completely recovers." 234.

It is more consistent with the anatomy of the parts, as well as, we believe, with fact, to anticipate the discharge of prostatic abscess into the prostatic part of the urethra, than in any other direction. Deep perineal abscess is more frequently suppuration in the cellular tissue, *excited by* inflammation in the urethra or the prostate, than actual abscess *in* the latter, opening *into* the former. The very strong capsule of the prostate explains the limitation of matter within it, and the loose cellular atmosphere around the gland, the propagation of inflammation without it.

Mr. Coulson concludes by observing that ulceration of the surface of that portion of the prostate which projects into the bladder sometimes occurs. In this state, or even in that of mere enlargement, the gland is liable to bleed. This usually will cease by antiphlogistic treatment, and keeping the patient entirely in the recumbent position.

2. *Chronic Inflammation of the Gland.*—A consequence of acute inflammation, very frequent "in those who are subject to rheumatism and cutaneous eruptions."

"Sometimes, also," adds Mr. Coulson, "in feeble subjects, the antiphlogistic treatment stops the progress of the inflammation at a period of the disease when pus has already formed in the parenchyma of the prostate, but which has not effected its discharge outwards. Disseminated in the cellular tissue, or contained in several small abscesses, this purulent matter undergoes the same change as sometimes happens in the pulmonary tissue, and which is not wholly re-absorbed: it is deprived of its more liquid parts, and reduced to its elements of greatest consistence. Thus we perceive formed tubercular depositions that soon become the subjects of frequent inflammation, while each fresh attack only increases the deposition; and in doing so, necessarily augments the size of the gland." 237.

Mr. Coulson states, as another mode in which the gland is enlarged:—deposition of serosity into the cellular tissue ensues on every fresh exacerbation of the inflammation; the more liquid portions of it being removed, and the albuminous that remains becomes organised. Certainly enlargement of the prostate frequently takes place without any previous acute inflammation, indeed without *symptoms* of inflammation at all. An elderly person finds difficulty of micturition gradually come on, and, if it has lasted for any time, the surgeon detects some enlargement of the prostate. Such a case must rather be looked on as an instance of the changes incidental to old age, than necessarily inflammatory—changes produced apparently by congestion and defective circulation rather than by inflammation and by active circulation.

Mr. Coulson and other writers allude to scaly eruptions on the skin as concomitants of enlarged prostate, and would seem to imply some degree of mutual connexion. But scaly eruptions, are common attendants on old age, and are seen almost as often in females as in males. It appears to us that there is no further association between *them* and enlarged prostate, than between *it* and the other changes of advanced life.

Mr. Coulson's account of the symptoms of the disorder is succinct and sufficiently explicit. He adverts to the alterations in the canal of the urethra, produced by the changes in the prostate. The growth of its sides renders its cavity deeper, and the posterior extremity forms a projection into the bladder. This projection is owing to the enlargement of a separate lobule of the prostate gland: or a winding passage may be formed through the prostate, by alterations in the shape of its cavity; the channel being thrown to one side, frequently to the right one—a circumstance to be recollected on passing the catheter, when obstruction is felt at the neck of the bladder. This state may be discovered by an examination per rectum. It obviously is one of the cases in which an elastic catheter will pass easily without a stilet, though difficultly, or not at all, with one.

We transcribe the directions given by Mr. Coulson, in reference to the use of the catheter.

"The catheter should either be passed every six or eight hours as the irritation returns, or it should be left in the bladder. In the latter case, after the first two or three days, it is a general rule to withdraw it, and repass it occasionally. If, however, it is not easily introduced, it will be better to secure it in the bladder, allowing the water to flow through it at intervals.

The usual mode of securing the catheter, is to apply a common T bandage, of which the longitudinal band is divided up the middle, into two portions, one of which lies in each angle between the scrotum and thigh, and to which the catheter may be secured by ligatures.

Should the patient not empty his bladder when the catheter is withdrawn, it must be re-introduced, and after a few days again taken out.

In some cases of diseased prostate, the urethra being very irritable, is liable to spasm at the membranous part; and as the gum catheter on an iron stilet is then certain to bring on spasm, a flexible gum catheter should be passed skilfully, and with the slightest possible force. When the bladder is emptied, the catheter should be retained by the means already pointed out, the water being drawn off at intervals till the first symptoms go off, and till the bladder can retain the water for the usual length of time.

The following method has been found successful, in cases rendered difficult by spasm: namely, to pass a gum catheter as far as possible without a stilet, and this will probably be to the enlargement of the prostate; then to introduce a stilet into the catheter, without withdrawing the latter from the urethra; and, finally, to employ the stilet to direct the point over the tumour of the prostate.

In thus using the gum catheter in a flexible state, if it do not pass readily, owing to its having been softened and lost its curve by passing through the straighter part of the urethra, it should be withdrawn, and another employed." 244.

Mr. Hey pointed out another mode of using the catheter, which has now and then succeeded. The catheter is to be passed with the stilet to the enlarged prostate—then the stilet is to be partially withdrawn, a manœuvre which tilts up the end of the catheter, and may enable it to ride over the protuberant gland.

If puncturing the bladder becomes necessary, Mr. Coulson prefers doing so from the rectum. He is of opinion that when painful sensations occur in the rectum, of which the symptoms are, distress in going to stool, painful tenesmus increased by efforts, or, when exertions are no longer made, and there is an aching uneasy feeling in the parts, the best applications are suppositories of extract of hemlock, with or without the extract of opium, and glysters of warm water, as a tepid bath, and as a means of procuring regular evacuations with little disturbance.

We think this edition much improved, and a valuable accession to the existing works on urinary diseases. It goes to confirm the favourable manner in which we have, on more than one occasion, had reason to speak of its judicious and indefatigable author. We recommend it to our surgical readers.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

" Ore trahit quodcunque potest, atque addit acervo."

Notices of some New Works.

TRANSACTIONS OF THE MEDICO-BOTANICAL SOCIETY OF LONDON. Edited by *W. H. Judd*, Esq. Senior Secretary. 8vo, pp. 248, London, 1839.

THE present small volume of the Transactions of this useful Society contains several Papers which may interest the practical portion of our readers. We shall select the main facts that they present.

I. ON A NEW PREPARATION FROM THE PIPER CUBEBA. By W. H. JUDD, Esq. M.R.C.S., Surgeon in the Scots Fusileer Guards, and Fellow of the Medico-Botanical Society.

Mr. Judd is well known to have devoted much attention to the study and the treatment of venereal affections, and is well-qualified to form an opinion on the value of any remedy employed for them.

His present communication is on an extract of the piper cubeba, prepared by Mr. John Toller, in the following manner :—

The cubebs are exhausted by repeated digestion in alcohol, which readily takes up all the active principles of the pepper, viz. a resin resembling that of copaiba, and a coloured resin, with an almost concrete essential volatile oil. The alcohol is distilled off from these tinctures at a temperature so moderate as not to volatilise the essential oil: when the operation can be conducted no further in this manner, the operation must then be carried on in an open vessel by the aid of a water-bath, at a still lower degree of heat; a little finely pulverised Spanish soap should now be added, to prevent the separation of the resin and preserve the extract of an uniform consistence; with careful attention to the temperature, it is thus brought to the requisite consistence for forming pills.

Mr. Judd believes that this extract retains the effective part of the pepper, without its inconveniences. When taken into the stomach in 15 grain doses, it occasions an aromatic warmth in that viscus, a sense of coldness in the fauces, urethra and rectum, similar to that produced by peppermint, a little quickness of pulse, a diuretic effect on the kidneys, a peculiar smell in the urine, and a rapid diminution in the discharge from the urethra. A single dose of five grains, in a healthy person, will, in two hours, impart to the urine a peculiar well-known odour, and that continued doses will impress the urethra with a cooling sensation, and, in a few days, arrest its diseased secretion. In short, it appears to possess all the properties that are known to exist in copaiba, turpentine, and this class of remedies.

Mr. Judd divides gonorrhœa into three stages. The first is seen "about the third day after contamination." A slight redness surrounds its orifice, while the inflammation arrives at that height which produces a thin colourless discharge, with a soreness and irritation in the urethra. The second stage may be known by the increased scalding, the diminished stream of urine, the frequent desire to make water, but above all by the thicker yellow discharge. The third stage is that so well known as "gleet."

Mr. Judd adds :—

"Cubebs will always be found capable of lessening or removing the very first issue of discharge and the irritation accompanying it, whilst the former is thin, and before the inflammation in the urethra has become sufficiently great to induce the formation of puriform fluid. If cubebs be taken but an hour later, they only serve to aggravate the disease in its second stage.

Cubebs again are highly beneficial when the discharge is great in quantity, but thin and transparent; and therefore, in the third stage, they often act as a charm and effect a cure in a few days.

Cubebs have another invaluable quality, that of being applicable and beneficial to the stages of urethritis in which copaiba aggravates all the symptoms; and, lastly, when this remedy has sometimes been found ineffectual in thoroughly removing the discharge, it renders the disease so mild that turpentine and copaiba are then found to be, by it, rendered certain in their curative effect." 32.

Mr. Judd relates six cases which appear to have been treated very successfully by the preparation of cubebs under consideration.

We would observe that, so far as we can judge, cubebs, though a valuable, is an uncertain remedy. It seems to act extremely well on some persons, and to be of little utility to others. Those who have had much experience in the treatment of gonorrhœa must, we think, have remarked, that with some patients cubebs generally answers, with others copaiba, and with others injections. Why this should be we cannot of course pretend to say. We quite agree with Mr. Judd on the *general* inapplicability of cubebs to the inflammatory stage of gonorrhœa. Not that it will always aggravate it, for some surgeons give cubebs through thick and thin, and they occasionally succeed with cubebs or copaiba, given in the stage we have mentioned. But we are sure, that the *balance* of advantage preponderates in favour of abstaining from stimulating remedies in that stage, and, in the long run, the surgeon will effect most good and least mischief who does so.

We are not so certain of the correctness of the assertion, that "cubebs have the invaluable quality of being applicable and beneficial to the stages of urethritis in which copaiba aggravates all the symptoms." We have not observed any thing which would justify us in making so positive an affirmation. Indeed it is indirectly contradicted by a previous remark of Mr. Judd's—*that*, cubebs will aggravate the inflammatory stage. That is the stage which copaiba is apt to aggravate too, and then what stages remain to be adapted for the one medicine and not to be adapted for the other?

P. S. We have tried the extract in a few cases with indifferent success.

II. On the Use of the Essential Oil of Turpentine in the Treatment of Iritis. By John Foote, Jun. Esq.

Mr. Foote believes that turpentine acts, in these cases, by inducing irritation in the mucous membrane of the intestinal and urinary canals. He quotes and approves of Mr. Carmichael's formula for its administration.

℞. Olei terebinthinæ rectificati ℥j. vitellum unius ovi; tere simul, et adde gradatim emulsionis amygdalarum ℥iv., syrupi corticis aurantii ℥ij., spiritûs lavandulæ compositi ʒiss., olei cinnamomi guttas tres vel quatuor. Misce; sumat cochlearia larga duo ter de die.

In a few cases it has been necessary to increase the quantity of turpentine to an ounce and a half or two ounces in the above mixture, the other ingredients being proportionally diminished, so that a drachm and a half or two drachms of it may be taken each time; but, in general, when administered to the extent directed in this formula, it has very seldom indeed failed, though extensively tried, and in very urgent cases.

Mr. Foote relates five cases, all of which occurred at the Westminster Ophthalmic Hospital. They tell, more or less, in favour of the medicine. Perhaps the case we shall introduce is as strong that way as any.

Case.—Wm. Chalfont, ætat. 18, admitted July 21, 1829, with syphilitic iritis of the eye. He reports himself to have had sores on the penis some time since. He has now a copper-coloured eruption (the lichen syphilitica) very plentifully on the back and arms, accompanied with nocturnal pains in his shin bones. He has not had a sore throat, nor has he taken mercury. His eye has been inflamed for three days, and he suffers severe circum-orbital pain, especially at the lower part: vision is also considerably impaired. The iris is much changed in colour, and is immoveable: pupil regular: conjunctiva inflamed: and the vessels of the sclerotic are of a pink colour, and very numerous round the margin of the cornea, forming a beautiful zone, with a white inner circle immediately surrounding the cornea.

℞. Olei terebinthinæ drachmam: capiat æger ter in die.

22nd. Has taken his medicine regularly: makes water more frequently, but without any pain: urine high-coloured. He suffered much pain in the eye last night, from which he is now quite free. The iris is not so much discoloured, but the vascularity of the conjunctiva and sclerotica is just the same as yesterday. Says the medicine makes him feel sick. Continue.

23rd. The circum-orbital pain is as severe as ever, but the inflammation is lessened and vision is improved. He complains of great pain in the glans penis during micturition: urine bloody and turbid. Pergat. Habeat infusum lini ad libitum.

24th. Pain round the eye not diminished: the iris is becoming irregular, and more changed in colour, with small globules of lymph adhering to its surface. He has frequent calls to empty the bladder: urine bloody on voiding it. He suffers extreme pain in the hypogastric region, extending also along the urethra to the glans penis. Let him be cupped to ten ounces from the temple, and continue his medicine.

25th. Would not be cupped, and did not take his medicine yesterday: he sees better, and does not complain of any pain: the vascularity is not so great: the strangury continues severe. Pergat in usu olei terebinthinæ et infusi lini.

28th. Had a purgative on the 26th. Has not taken the turpentine regularly since the last report: he has not any pain in the eye, and vision is quite restored. The urinary organs continue highly irritated: the eruption is paler. Instilletur gutta solutionis belladonnæ. Habeat pulveris jalapæ compositi drachmam.

30th. The strangury is lessened: the eye continues free from pain, but the vascularity is not removed: the iris has nearly regained its colour, but is irregular. Let him re-commence the turpentine.

The terebinthina was used for a short time with decided advantage: he again omitted it too soon, and was obliged to resume it. When discharged, the redness had disappeared, the iris had regained its natural colour, and the pupil was regular.

We conceive there can be no doubt that, in ordinary cases of iritis, calomel and opium are the best remedies. But in certain instances their use may be precluded by constitutional peculiarity, or by cachexia, and the knowledge of another remedy, inferior though it may be, is useful. Turpentine appears to be such a medicine. Not comparable, under common circumstances, with mercury, it is still possessed of some degree of efficacy, and may at times be given with advantage.

III. SIR ROBERT KERR PORTER ON THE CUICHUNCHULLI PLANT, AND ITS EFFECTS IN ELEPHANTIASIS.

Sir Robert communicates the following account of the cuichunchulli, or *viola parviflora* of Mutis, transmitted to him by a physician of Venezuela. It has acquired the highest popular reputation in the treatment of elephantiasis, and eruptive disorders of that class.

Its medicinal qualities, like those of the *viola ipecacuanha*, reside in the root. It may be pulverized and given in doses of half a drachm, mixed with a little warm water: this dose is administered during the first days, or until the system is seen to become sensible to its effects. In order to encourage the perspiration it excites, the patient ought to take several cups of the infusion of the alder, another sudorific plant. Frequently it produces nausea, and even vomiting, lowness of spirits and great anxiety of mind; violent perspiration, and copious discharges of urine, as well as a strong salivation.

It is requisite that the patient be kept close to his room during the time of administering this remedy.

The number of doses, as well as quantity, must be augmented according to the effects produced; its use ought to be prolonged for a period as symptoms and circumstances appear to call for.

"As yet," says the cautious physician who writes to Sir Robert Porter, "I have not seen any decided cases of elephantiasis cured by administering this plant. In two cases I certainly perceived much alleviation. In one of them was observable an almost total disappearance of the greater part of the symptoms of leprosy, which had already far advanced; but it was not either a complete or satisfactory cure. In the other I remarked some favourable change on the spots of the skin, on the ulcers of the nose, and in the pimples. Jointly with this remedy was used washing the interior of the nostrils with a solution of subborate of soda and corrosive sublimate.

I have tried the cuichunchulli, and seen it tried in four or five cases, but, with the exception of the two I have stated, (where I was called in at a consultation with other medical men), its effects were null, or almost imperceptible.

Many other medicinal virtues are attributed to this plant, but without denying all of them, I must venture to doubt them, or at least to believe, they are greatly exaggerated."

We prefer this plain, practical, and philosophical statement to the florid accounts of wonders effected by the cuichunchulli, contained in other documents forwarded by Sir Robert. At the same time, the medicine having very obvious purgative and emetic effects, is evidently not an inert one, and may turn out to be an useful one.

We shall only add a statement of Dr. Farr's, that:—There is now in this country a considerable quantity of the true cuichunchulli besides the specimens presented to the Society. Mr. Blundell, of Liverpool, has received from Guayaquil a parcel of one hundred and forty pounds weight, collected about Riobamba. Sir R. Porter states that a small quantity of the root was sold at Corveas for the enormous sum of £3 6s. per ounce, i. e. for nearly its weight in gold. Mr. Blundell, is of opinion that it cannot be sold in this country for less than 10s. per pound, or about one hundredth of that price; yet he infers, from even this cost, that it is a scarce plant, and the expense of collecting the root considerable; and in fact, the Venezuela Gazette states, that it is not produced abundantly.

Those practitioners who like to try it have the opportunity.

A PRACTICAL TREATISE ON THE HUMAN TEETH, SHOWING THE CAUSES OF THEIR DESTRUCTION AND THE MEANS OF THEIR PRESERVATION. By *William Robertson.* London, 1849, pp. 205. Second edition.

THE work before us, already well known to many of our readers, is materially different from the current brochures on the management of the teeth, and lays claim to the first promulgation and to the first practical application of a theory of caries or decay of the teeth, which is likely materially to stamp and improve the practice of dental surgery. It is well known that Bell and Fox, the chief modern writers of consideration on the teeth, attribute the loss of these organs by decay, to inflammation, seated either in the lining membrane, or proper bone of the tooth. Mr. Robertson disagrees with this, and by a number of proofs drawn from the structure of the teeth, their physiology, development and the operations performed upon them, establishes, that caries is the result of the chemical action of decomposed food upon the teeth, and not the result of inflammatory action, which had been previously supposed.

"Upon examination it will be found that there are fissures formed in the enamel of the teeth, in consequence of the irregular distribution of that substance upon the surfaces; and that there are also interstices produced by the crowded position of the teeth, and irregularity of their shape. In these situations the particles of food are retained, which undergo a process of decomposition, and acquire the property of corroding, disuniting, and thereby destroying the earthy and animal substance of which the teeth are composed. That this is the cause of the destruction of the teeth, commonly called 'caries,' and that it is not the result of inflammation, either in the membrane or the bone of the tooth, will appear obvious from facts which will be produced, and which I have daily witnessed during a long course of practice."

The facts here alluded to are chiefly to be sought for in the formation and individual structure of particular teeth, hence we find that the more irregular is the surface of a tooth, and the deeper the fissures in the enamel, the more likely is it to be the subject of caries, thus the dentes sapientiæ are the first generally to decay, next the molares, then the bicuspides, till we find that the incisors, particularly those of the lower jaw, are hardly liable to caries, except under very particular formations, depending upon a deficient deposition of enamel on their cutting or grinding surfaces.

"It is to this irregularity of structure, so peculiar to the double teeth, that their tendency to caries is to be attributed; and the liability of the teeth in different individuals to decay will be in proportion to the form and depth of these fissures. On the other hand, where there is a close union of the section of enamel upon the surfaces of the teeth, there will be no tendency to decay, because no lodgment of food can take place."

Mr. Robertson next proceeds to point out the situations upon the teeth, in which decay most commonly takes place, and to explain the cause why one class of these organs is more liable to decay than another. The teeth are then reviewed in the order of their liability to decay, which is, as we have said, first the molares, then the bicuspides of the upper jaw, afterwards the incisors of the upper jaw, and lastly, the least disposed of all are the incisors of the lower jaw. The reasons why this is the case are fully explained by Mr. R. in an elaborate account of the formation of the teeth, and the disposition of the enamel upon their surface. This is ably done, and the proofs, drawn from the anatomical structure of each class of teeth, appear to us so conclusive, that we are disposed to believe them incontrovertible.

"From the review," says our author, "we have just taken of decay in the different classes of the teeth, it will be perceived that, in regard to situation, it takes place on the surfaces of the teeth, in excavations formed between them and the projecting gum, in cavities, indentation and irregularities, on the external surface of the tooth itself, and that it occurs at their sides, in their necks, and spaces produced by their formation and relative position; in regard to frequency, that it is in proportion to the depth of the superficial depression, and the degree and nature of the lateral projections and interstices.

This being the case, and decay never being found to take place upon the plain and smooth surface of the tooth, it cannot for a moment be doubted, that the predisposition to caries depends upon the external configuration or conformation of the teeth. It must be equally evident from the partial nature of the disease and from the insufficiency of all general causes to explain this circumstance, that the exciting cause of caries must be one whose operation is partial, and which has a peculiar action upon those parts of the teeth, which are by their structure predisposed to decay. The only cause capable of explaining the partial operation and the particular situations of decay, is the corrosive or chemical action of the solid particles of food which have been retained, and undergone a process of putrefaction or fermentation in the different elopes of the teeth best adapted for their reception."

Following out the theory now stated, Mr. Robertson shews why teeth are so liable, and so frequently decay in pairs, from opposite sides of the jaw; why also, decay is more frequent in youth than in age, and why there is a great susceptibility to decay in the teeth of particular families. All these circumstances arise from the original anatomical disposition of the surfaces, and situation of the teeth, from the similarity of the teeth on opposite sides of the jaw to each other, and from the simple fact that the deeper the fissures, the greater quantity is the food retained, the more quickly is it decomposed, and the tooth decayed and lost. The various proofs in support of these several positions are detailed in the fifth chapter of the work, and are well worthy the most attentive perusal.

The description of the mode in which decay commences, and proceeds till the external cavity of the tooth is perforated, tooth-ache produced, and the organ inevitably lost, we consider of very great importance, and shall let the author describe it in his own words.

"When decay commences upon the surface of a grinding tooth the corrosive action is confined to one or more of its deepest indentations, and may be discovered by a brown discolouration of the part, which is produced by a chemical action of the food lodging in this situation, and as this action proceeds and increases, the bottom of the indentation becomes black and corroded, and soon afterwards a small opening may be discovered through the enamel. When the putrid substance has been admitted through this orifice to the softer bone within the enamel, decomposition in this situation proceeds with much greater rapidity, whereas the opening through the enamel increases but little, its texture being better able to resist the effects of chemical action, on account of its greater density; but when decay has proceeded so far as to make an excavation, by the destruction of a considerable portion of the bone under the enamel, the support being removed, the enamel suddenly breaks in during mastication, and a cavity is laid open, which till this period was not suspected, in consequence of the smallness of the orifice, and the destruction of the tooth, up to this stage of decay, being unaccompanied with pain. At this period or soon after, by the continued operation of the same chemical action, the internal membrane that lines the cavity of the tooth becomes exposed, and consequently inflammation occurs, the pain produced by which is tooth-ache."

Through the 7th, 8th, and 9th chapters of the first part of the work which are devoted to the explanation and support of the theory insisted on, Mr. Robertson proceeds to deduce further proofs in support of its validity and soundness. These are chiefly drawn from the nature of the operations performed upon the teeth, from a comparison of the human teeth with those of some animals, and from some further considerations on the inorganic character of the bone of the tooth.

The second part of the work before us considers the application of the theory to practice, and here Mr. Robertson insists upon the frequent inspection of the teeth by a dentist, for the purpose of preventing decay proceeding so far as the destruction of the bone of the tooth, and the perforation of its cavity, at which period the case is hopeless, and the tooth must be inevitably lost,—at all periods previous to this art can preserve it.

"I have before stated," says Mr. R. "that between the ages of six and twelve years the teeth require most attention; because, during this period it is necessary to attend to their arrangement, as well as to detect and arrest caries in time; and moreover, during this early stage of life, there is the greatest tendency in the teeth to decay. There are some persons whose teeth are altogether exempt from caries, and require no assistance from the dentist. But it will be found in cases of this kind that the teeth are regular in their arrangement, and that the sections of the enamel upon their surfaces are closely united; therefore they do not present receptacles for the food to lodge in, and, consequently, there is no tendency in such teeth to decay."

The act of preserving the teeth is to keep them clean, and, if this can be accomplished there will be no tendency in them to decay. It is not however the mere surfaces that must be kept clean, but the natural pits and fissures, which the natural arrangement or construction of the teeth form.

"It would be well if persons would look into their mouths, and make themselves familiar with the forms and arrangement of their teeth, in order that they may ascertain the practicability or impracticability of keeping them clean by means of the tooth-brush. At all events, a knowledge of the structure and position of the teeth would enable them to apply the brush in a way best calculated to effect this purpose; for there is, even in the right performance of this simple operation, some little art required. The attention should be particularly directed to the grinding surfaces of the double teeth; these are the most subject to decay, because of the irregularity of their structure, and consequently their tendency to retain food."

We recommend the careful perusal of the above treatise which is strictly practical, and even popular in its character to all persons interested (and who are not) in the preservation of their own teeth or that of their children. We firmly believe that a general acquaintance with the principles of Mr. Robertson's theory, and the consequent periodical examination of the teeth, which such an acquaintance would produce, must tend most materially to diminish the frequency of a most painful and annoying disease, and render the economy of the mouth an object of daily and profitable attention. The simple and clear manner in which the facts contained in Mr. Robertson's book are set forth, their important application, and the facility, with which the proofs brought forward in support of the theory, may be comprehended by even unprofessional readers, must render the present publication not only an important improvement in modern dental surgery, but also a valuable and useful contribution to the public at large.

ILLUSTRATIONS OF CUTANEOUS DISEASE.—A SERIES OF DELINEATIONS OF THE AFFECTIONS OF THE SKIN IN THEIR MORE INTERESTING AND FREQUENT FORMS; WITH A PRACTICAL SUMMARY OF THEIR SYMPTOMS, DIAGNOSIS, AND TREATMENT, INCLUDING APPROPRIATE FORMULÆ. By *Robert Willis,* M.D. Licentiate of the Royal College of Physicians, Physician to the Royal Infirmary for Children, Author of an English Version of Rayer on the Diseases of the Skin, &c. Fasciculi II. to XV. Balliere. London, 1839.

WE noticed the first Fasciculus of this valuable series of Illustrations, on its appearance, and take shame to ourselves for having omitted to bring the subsequent ones before our readers. But we shall make both apology and atonement at the same moment and by the same act.

FASCICULUS II. presents us with plates of *Lepra Vulgaris*—of *Pemphigus*—of *Purpura,* in the shape of, 1, *Ecchymoses,* and 2, *Petechiæ.*

We shall allude to that portion of the text which discusses, or, rather, hints at the treatment of Lepra Vulgaris. We do so because that treatment is difficult and far too frequently unsuccessful. Dr. Willis, we think, overrates its curability very materially, when he affirms that perhaps in the majority of cases the disease may be wholly eradicated. In the young it is undoubtedly more curable than when the season of youth is past; yet, even in the young, it is but too prone to relapse.

Dr. Willis observes that it is well to begin by abstracting blood; first in proportion to the age and strength of the subject, and next to the amount of pain and irritation endured from the disease. This is to be followed up by the exhibition of adequate doses of purgative medicine, (and there is nothing better than a few grains of calomel with some compound extract of colocynth at night, followed by the common black draught of salts and senna next morning,) at intervals for ten days or a fortnight afterwards, the patient being meanwhile kept upon bland farinaceous and unstimulating food, and enjoined the use of some mild diluent with liquor potassæ or carbonate of soda. These measures continued for a few weeks have often a very marked influence on the disease; and intermitted for short intervals, and then resumed, are sometimes of themselves adequate to subdue it entirely. It is quite consistent with our observation to place the main dependence on remedies of this class—evacuants and such as improve the secretions. But they relieve rather than cure.

After a time, it becomes proper to try some of the more empirical medicines—the tincture of cantharides—the liquor arsenicalis, the general favourite. Dr. Willis says, that "the farrago of vegetable infusions and decoctions that have been recommended in Lepra, do not appear to have any influence beyond that which they possess as simple diluents." We can by no means concur with him in ranking sarsaparilla as a simple diluent, nor are we sure that the dulcamara, or the taraxacum, can be considered so. No doubt they are each and all prescribed with very vague, very empirical, and very exaggerated notions; but they have an action, the first and the last at all events, notwithstanding. The sarsaparilla is often beneficial after persons have been a good deal lowered, and in those of lax fibre, or of weakened health, it is of service. But quoad the lepra it must be cautiously used, the vascular fulness it tends to produce being hazardous.

Dr. Willis says little, yet not too little, in favour of local applications. The general warm bath, he remarks, is useful in removing squamæ and softening the skin. The patches cleared by its means sometimes improve obviously by being rubbed twice a day with a salve of white precipitate, or with an unguent of iodide of sulphur; or by being moistened with strong acetic acid. They are perhaps even more advantageously treated by having a rod of the solid nitrate of silver passed rapidly over the healthy integument round them, the parts having been previously moistened. And he concludes by stating that the vapour and sulphur bath deserve a trial.

So far as we have seen, no good is done without warm baths. The skin is, in most instances, dry, and baths tend to restore its functions. But we never *saw* any good from the sulphur bath. *That* tends to make the skin more dry, if administered effectually; and if ineffectually, it is, of course, a delusion.

The THIRD FASCICULUS represents *Eczema Capillitii*, *Pityriasis Capitis*, *Ecthyma Capillitii*, and *Porrigo Scutulata* (of Willan), or ringworm of the scalp.

We may say a word or two on eczema of the scalp, a complaint very frequently misunderstood and mismanaged. As Dr. Willis remarks, the elementary, vesicular form of the eruption, and the discharge of serous fluid, distinguish eczema from any other affection that has its seat on the scalp. Even when the disease has passed into the chronic and furfuraceous state, its history in previous stages, the tender and glistening appearance of the integument, and the nature of the scales—partly cuticular, partly dried exudation, are characteristic of the case.

Dr. Willis counsels, the complaint being left to run its course. This must not, however, be understood literally, for to prescribe alteratives and aperients is to interfere as much, as to apply escharotic washes. The *mode* of interference differs in the two cases; but interference there is in each. Dr. Willis remarks that he has never seen repellent means adopted in an early stage of the complaint without more serious symptoms following. It is better to prescribe some mild alterative every night or every other night—a few grains of rhubarb and carbonate of soda—and the occasional use of a mild diaphoretic mixture in the course of the day, containing the acetate of ammonia or citrate of potash combined with the tartrate of antimony in small doses—and to await the natural decline of the eruption. The only topical medication admissible consists in tepid sponging, and great attention to cleanliness. Incrustations are best got rid of by the application of a bread and water poultice, and subsequent bathing with warm water. When the disease declines, a weak solution of sulphate of zinc (two or three grains to the ounce of water) becomes a useful tonic application. And when it has passed into the stage of repeated flimsy desquamation, a salve of the white precipitate (gr. v.—x.—xv. to the ounce of lard) is always of signal service. It has appeared to us that in all cases of eczema, and we might even extend the proposition to most diseases characterised by a tendency to serous exudation, evacuating medicines are necessary. Rather smart purging and diuretics have always seemed to us to be of service. The liquor potassæ is a valuable medicine in these cases, and chiefly, we think, valuable when it acts upon the kidneys. So soon as the system has been freely unloaded, lead in the shape of lotion, poultice, or ointment, agrees as well as any local application, if not better than most. Irritating applications do not answer so well.

Infants often suffer from the disorder during the whole time of teething. Yet it should not be allowed to pursue its course unmolested on that account; it may degenerate into a very obstinate affection. Regulation of the secretions, great cleanliness, and tepid poultices, are requisite.

Porrigo Scutulata, or trichosis simplex, or ring-worm, has, for its essence, inflammation of the hair-follicles. Dr. Willis observes, very justly, that the disease is therefore erroneously, although almost universally, described as commencing with the formation of the pustules denominated achores and favi. When it ends in suppuration, the pustules are of the description mentioned;

but they are still accidental, not necessary to the disease. He has often not seen a single pustule from the beginning of a case to the end of it.

As to treatment, our author confesses his ignorance of a specific. The disease often goes on for a certain time, in spite of every thing that can be done, and yields at last to what it may have resisted at first. In the earlier stages, Dr. W. advises tepid fomentation for an hour or more at a time, and repeated once, twice, or thrice in the course of the day, and the application of a light bread and water poultice during the night. The complaint will occasionally yield to this alone. The other remedial hints which our author gives are the following:—The lunar caustic applied in a ring round the patches at the distance of about a line from their outer margin, has also occasionally a very remarkable effect in modifying the morbid action that is going on within them. Applied directly to the parts affected, however, this and all other irritating or stimulating washes and salves do mischief in the earlier periods of the disease. By and by they become as useful as in the first instance they were prejudicial. A solution of sulphate of copper (gr. vi.—x. to the ounce of water), of nitrate of silver, (in the same proportions,) the mild ointment of the nitrate of mercury, a salve of the black sulphuret of the same metal (sulphuret. hydrarg. nigr. ʒj. —ʒij. adepis ℥j.) the unguentum picis, an unguent of the cocculus indicus, (coccul. ind. pulveriz. ʒj.—ʒij. adepis ℥j.) may be tried one after another, and in different instances, each will have the credit of the cure. Time and perseverance are the sovereign remedies, combined with which every other succeeds, without which all in their turn will certainly fail. The most efficacious remedy in itself is undoubtedly the eradication of the affected hairs; these are to be removed singly with forceps. We have seen as much benefit from the ointment of the iodide of sulphur, as from any thing. It should be rubbed upon the part some two or three times a day, and conjoined with the frequent use of warm soap and water.

When the part affected is not particularly covered with hair, the application of a solution of sulphate of copper or nitrate of silver is generally effectual.

FASCICULUS IV. depicts *Psoriasis Discreta s. Guttata—Herpes Phlyctænodes—Scabies Purulenta*—and *Strophulus Confertus.*

Dr. Willis says of the treatment of Scabies:—the partial and scanty employment of the sulphur ointment are the errors to be avoided; it should be used in large quantity and generally. The patient should stand before a good fire and anoint the whole surface of his body, and especially those districts that are more peculiarly affected, with abundance of sulphur ointment (equal parts of sublimed sulphur and lard). He should then dress himself, without washing off any of the ointment, in a complete suit, consisting of drawers, a calico shirt, stockings and gloves, and go to bed. There he should remain for twenty-four hours, after which he may rise and step into a warm bath, where he is to cleanse himself by means of white soap from all traces of the grease. He now dresses in clean garments, and in the vast majority of instances he will be no further troubled with his disease, unless he contracts it again by putting on any of the infected raiment he may have formerly worn.

Common as scabies is, we have been surprised at the frequency with which it is mistaken. We are every now and then consulted by patients, who have been seen, perhaps, by several medical men, without *their* discovering the nature of the case—the itch. We cannot say, however, that we have found the complaint so curable as Dr. Willis would imply. Our patients have required more than one night's brimstone, and we suspect the majority will not be let off so cheap. Indeed we have found the simple sulphur ointment much less effectual than the compound. The latter produces a good deal of irritation, it is true, but this disadvantage is counterbalanced by its curing the complaint.

After enumerating the remedies that are recommended for *Psoriasis discreta,* remedies almost identical with those employed for lepra, Dr. Willis believes that arsenic is of most efficacy in psoriasis. Admitting the tendency to relapse, he adds:—"The only efficient mode of guaranteeing the patient against this, is to conclude the cure by the administration of some eight or ten sulphur-fume baths, which, as the most powerful of all the means we possess of influencing the skin, deserve to be much more freely administered than we have either the opportunity, or, it would seem, the inclination to do in this country." We would take the liberty of repeating the remark we have already made, that, so far as we have seen, the sulphur fumigation has a tendency to render the skin dry, and is not likely to be productive of much benefit in cases of scaly eruption, attended, as they usually are, with such a condition of the surface. Discrimination should, therefore, be exercised in the recommendation of this remedy.

FASCICULUS V. portrays *Impetigo Capillitii—Trichosis Favosa—Trichosis Lupinosa—Trichosis Decalvans.*

Of Impetigo Capillitii, Dr. Willis says, that it presents itself with the characters appropriate to each of the forms that have been described by nosologists, viz. in single insulated pustules—Impetigo sparsa, in oval or circular clusters of pustules—Impetigo figurata—and in rings, Impetigo annulata. The Porrigos and Tineas of authors are in the majority of instances referable to Impetigo in one or other of its forms. Impetigo figurata he has principally seen in children about or under a year old; the distinct is the more frequent form, (Impetigo sparsa,) and occurs later in life—from about the fourth to the tenth year. In none of its forms is the disease contagious. It is allied in character and in treatment to eczema, into which it runs.

The Trichoses, already noticed in part, are a very obstinate and therefore an interesting class of eruptions. The trichosis favosa and trichosis lupinosa correspond to the porrigo favosa and porrigo lupinosa of Willan.

"Neither the trichosis favosa," says Dr. Willis, "nor its derivative the trichosis lupinosa, are very common diseases in this country. Several months will often elapse before a single case of the trichosis (porrigo) lupinosa is observed among the thousands of out and in-patients who present themselves at the different hospitals of the metropolis in the course of every week. In France, however, M. Rayer informs us, that next to eczema and impetigo, favus is the most frequent of all the affections of the scalp. Pustular trichosis, however, is by no means confined to the hairy scalp. The follicles of the beard are often affected precisely as those of the scalp are in the disease which I have described as the trichosis favosa, a case in which the affection has hitherto been confounded with the proper sycosis menti. The trichosis (porrigo) lupinosa is well known to show itself occasionally upon the cheeks, neck, bosom, and extremities.

These pustular forms of trichosis, as well as the trichosis simplex, are contagious diseases. They are frequently to be traced from individual to individual, and seem to have the power of engendering one another. I have, for instance, seen the trichosis lupinosa arise on the shoulder and arm of a girl fifteen or sixteen years of age, who was in the habit of fondling and nursing her sister, a child of seven or eight, affected with trichosis simplex of the scalp."

In the treatment of these affections, our author advises mercurial purgatives, followed by light bitters with alkalies. "The hair," he adds, in reference to local treatment, "should be removed from the whole scalp by means of flat scissors—the excitement of shaving does mischief, and should be avoided. Inflamed parts must be soothed by tepid sponging, scabs and incrustations of every kind got rid of by poulticing, and dead hairs, wherever they appear, extracted; pustules should, at the same time, be sedulously and closely looked for once or twice in the course of each day, the hairs, with the roots of which they seem connected, pulled out with a pair of fine forceps, and favous deposites squeezed from their conduits. Should any difficulty be experienced in softening and getting rid of the scabs in consequence of their thickness and hardness, a few folds of linen dipped in a wash of the subcarbonate of potash, (two or three drams of the salt to a pint of water,) or of the hydrochloric acid, (acid. hydrochlor. dilut. ℥j.—℥ij. aq. Oj.,) applied for six or eight hours, will be found effectual in softening them. The tender parts, after they have been bathed with tepid water for some time, may be covered with pledgets of linen spread with the zinc ointment. By and by they may be washed with a weak solution of the sulphate of zinc in water, (four, six, or eight grains of the salt to the ounce of water,) or of the nitrate of silver in the same or somewhat smaller proportion, which will be found very effectual in allaying morbid action and in giving tone to the tissues affected. These means alone, indeed, diligently enforced, are adequate to subdue all those forms of scalp affection in which the hair-follicles are implicated. It is even doubtful whether the cure is materially expedited by the use of stimulating ointments of any kind. It is only in cases which prove indolent, which continue under treatment for more than three or four weeks, that I believe it necessary to try some one or other of the infinite number of unguents that have been recommended in the cure of scald head."

Dr. Willis alludes to the opinion, a disposition to entertain which appears to have prevailed of late, that the trichosis decalvans is a mere consequence of other antecedent affections of the scalp, especially of the trichosis simplex. He believes, and we think with perfect truth, that the hair-bulbs in certain instances are liable to be affected by a kind of paralysis of their functions, in which they shrink and become anemic and atrophied without antecedent inflammation or any one of its consequences. In this event the disease, the trichosis decalvans, shows itself primarily as a spot of variable extent from which the hair has fallen off more or less suddenly, and around the edges of which it continues to be detached for some time after the affection is particularly noticed, the skin of the patch being all the while preternaturally tense, smooth and white, and appearing sunk below rather than raised above the general level of the integument of the scalp. The essence of the disease seems to consist in a simple suspension of the functions of the hair-follicles. The follicles themselves are not destroyed.

This, like other forms of trichosis, appears to be contagious. It is well, therefore, to remove the hair from the whole scalp either by clipping or shaving, and to keep the surface perfectly clean by the use of white soap and water night and morning. By and by the bald patches may be attacked more particularly; though they will usually be found at first to resist every application that can be thought of. Almost the only article Dr. W. has seen of service in the earlier stages is the unguentum hydrargyri camphoratum rubbed lightly with the point of the finger over the parts affected every night. Subsequently, more stimulating applications become useful; a mixture of the soap-liniment, oil of turpentine, and tincture of cantharides, (linim. sapon. ℥j. ol. terebinth. tinct. lyttæ āā ʒij.) often answers extremely well in arousing the dormant energies of the hair follicles. We have seen the iodide of sulphur ointment beneficial. The cold shower bath is useful too. But it must be confessed that the complaint is a troublesome one.

Fasiculus VI. contains *Psoriasis Annularis—Roseola Annulata—Impetigo Figurata* (any thing but happy)—and *Lupus Exedens.*

In a case of *Psoriasis Annularis*, the following treatment has proved serviceable. Dr. W. recommended the patient, who had laboured under the complaint for some years, to lose ten ounces of blood at once; to take a couple of pills containing four grains of calomel, and ten grains of the compound extract of colocynth, at night, and next morning a saline powder consisting of two drams of soda tar-

tarizata and the like quantity of bitartrate of potash with one-twelfth of a grain of tartrate of antimony, twice in the course of each week; to restrict herself to a milk and farinaceous diet, and to anoint the more irritable and itchy patches with the ointment of the ammonio-chloride of mercury at bed-time.

The improvement within ten days was considerable, and the plan was persevered in for ten days more. The effect of fumigating the arms with a mixture of sulphur and iodine was then tried. This proved most beneficial. The eruption on the arms to which the fume douche had been applied, was nearly gone by the end of a week; so that he was encouraged to try the general sulphur fumigation bath. The patient has used these baths six times with much advantage.

In a child about eight years old, who had laboured under epileptiform fits since the age of two years, and under *Impetigo Figurata* for three months, "I directed," says our author, "simple tepid bathing of the parts affected night and morning for a week, and a course of the decoction of the burdock-root, (two ounces of the root to be slowly boiled in a pint and a half of water till reduced to a pint,) two ounces to be taken night and morning. By and by the patches of the disease appeared less irritable; there was no fresh eruption of pustules, and I ventured on the application of a greatly diluted ointment of the nitrate of mercury. This seemed to agree, and the treatment steadily pursued was finally followed by success: the skin began to clear at the end of a fortnight, and before the lapse of a month the only traces of the eruption that remained were a few dusky-red blotches."

We wish we could say that Dr. Willis gives us any hint on the treatment of that disgrace to surgery, *Lupus Exedens*. We shall content ourselves with enumerating the caustic applications that he mentions:—the nitric acid, the acid-nitrate of mercury, the nitrate of silver, the arsenical paste, (arsenic acid 10 grains, red sulphuret of mercury ʒij. charcoal 5 grains,) the compound powder of calomel and arsenic acid, (calomel 99 parts, arsenic acid 1 part,) the chloride of zinc, (chloride of zinc 1 part, plaster of Paris 2 parts,) are those that have greatest efficacy, and are most commonly employed. A formidable catalogue of unsuccessful escharotics.

FASCICULUS VII. contains *Psoriasis Inveterata—Vitiligo—Purpura Urticans* and *Lichen*.

In the case of supposed *Vitiligo*, from which the present drawing has been taken, a case which was under the care of Sir Benjamin Brodie, in St. George's Hospital, the patches spread irregularly outwards on every side from the spot first affected, presenting a corymbose appearance, as if made up of many smaller rounded patches, and at their height having a pretty bright purple hue. The patches were slightly raised above the general level of the skin; they were not painful; but not insensible; the patient knew when they were touched, and, at times, they were somewhat itchy. The patient was affected with varicose veins of the affected leg; and on different occasions the vitiliginous patch give way, and, in parts, become an open sore, discharging a sanguinolent serum; the sores, however, were never of bad character, for with rest and simple dressings, the wounds always healed readily. A variety of applications were tried to the affected part; that which seemed to do most good was naptha; under the use of this the principal patch sank nearly to the level of the surrounding skin, and the colour faded to a tawny or pale purplish brown. The general health of the patient appearing to suffer from his residence in the atmosphere of an hospital, he was discharged improved, but not entirely relieved of his disease. It may not be unimportant to observe, that the disease first showed itself in the United States of America, a country in which the patient had resided for several years.

In reference to the treatment of *Lichen*, Dr. Willis says:—In the milder cases, rest, a cooling regimen, the avoidance of all causes of excitement, such as a hot atmosphere, a warm bed, &c.; and the continued use of some mild diluent, such as lemonade, with the occasional exhibition of a gentle saline aperient, suffice to bring the disease to an end. Should the symptoms run higher, it becomes necessary to detract blood, to purge more freely, and at the same time to prescribe a sherbet of one of the mineral acids. All topical applications should be of the mildest description, and used cold. Sometimes no wash but simple water, a decoction of bran, or a weak solution of gelatin, at the temperature of about 60° Fahrenheit, can be borne. By and by a weak unguent of the white precipitate of mercury may be tried, or what often answers better, one of the black sulphuret of the same metal (ʒss. ʒj. ʒij. to the ounce of lard). The iodide of mercury has also been recommended, and the pruritus may sometimes be effectually allayed by cauterizing the papulæ superficially with the nitrate of silver.

FASCICULUS VIII. has *Icthyosis Simplex—Acne Pustulosa—Sycosis—Erythema Fugax.*

Dr. Willis remarks that, several diseases affecting the integument of the face have been described under the common names of acne, mentagra, and sycosis. These diseases have their seats in different elements of the skin. Some of them affect the sebaceous follicles, and belong to the proper Acnes. Others inhere in the hair-bulbs, and are from first to last genuine Trichoses. A third set implicate first the more superficial and then the deeper layers of the dermis, and are accompanied by the growth of soft, fungoid, fleshy masses, moist or crusted on the surface, of a bright red colour, and varying in size from that of a hempseed to that of a cherrystone or hazel-nut. These growths were compared to figs, whence the name of the disease they characterize, SYCOSIS. In this last disease the sebaceous follicles and hair-bulbs are often altogether unaffected; when they are implicated, they seem to be so secondarily, and in consequence of becoming involved in the inflammation that surrounds them.

Having described the formation of the pustules, Dr. Willis goes on to observe:—

"When from the intensity of the pruritus the parts affected are violently rubbed, pustules hardly make their appearance at all; but in their stead there is an oozing of a pale viscid lymph around the shafts of the hairs, which dries into crusts precisely as in the former case. Little or nothing save a small drop of lymph can at any time be squeezed from the pustules or oozing points, but the hairs which traverse them will in many cases be found either wholly or partially loosened, so as to be easily extracted; and where this does not happen in the first instance, it very commonly occurs at a later period. I know by repeated experience, indeed, that if the disease be narrowly watched, and the hair whose root is affected be singled out and extracted, the malady will cease in so far as this particular hair is concerned. The same remark applies to those cases in which the orifices of the sebaceous follicles are affected: their contents being squeezed out as soon as they begin to prove sources of irritation, the morbid process goes no further. When no attention is paid to the disease, however, or when the surfaces affected continue to be irritated by the application of soap and the daily use of the razor, or by improper stimulating unguents, &c. one crop of pustules succeeds another; the morbid actions extend from those parts in which they were first set up, the entire thickness of the corion, and even the subjacent cellular tissue, become affected, the surface is rendered nodulated and uneven, and under an accumulated mass of crusts and filth, the fig-like, spongy, and moist excrescences of sycosis show themselves, and cause the disgusting appearance and disfigurement that are generally felt as not the least painful part of the disease."

"The hint already given in regard to the connexion of the hairs and hair-bulbs, and the sebaceous follicles and their ducts, with many cases of pustular

Mentagra, may often be used to excellent purpose in the treatment of the disease. With few means beyond tepid bathing, and the extraction of loose and dead hairs, I have seen more than one case of Mentagra yield, which had long resisted constitutional measures of every kind. With the exception of extracting hairs whose roots are diseased, the local treatment of this disease in all its stages ought to be soothing—tepid bathing, fomentations with decoction of bran or poppy heads, the constant application of a few folds of soft linen wrung out of one of these decoctions, or of soft bread and water poultices, are the proper means. The beard is at the same time to be kept short by the scissors,—on no account is it to be touched with a razor. The same general principles are available where the sebaceous follicles appear to be the elements principally implicated; and nothing can be more satisfactory than their influence in those cases that are accompanied with the growth of moist ficoid excrescences."

On the constitutional treatment Dr. W. says nothing that we need advert to. We must confess that, occasionally, acne proves a highly troublesome complaint, whatever the method of treatment resorted to. We quite agree with Dr. Willis that, too frequently, these cutaneous disorders are any thing but judiciously managed, and the mistake commonly lies in the over fondness for irritating applications.

FASCICULUS IX. presents *Erythema Papulatum et Tuberculatum—Scabies Impetiginosa—Favus Corporis—Urticaria Vulgaris.*

In his observations on the plate of Scabies Impetiginosa, Dr. Willis admits the connection between the various groups of cutaneous disease, vesicles running into pustules, tubercles becoming scaly, &c. Indeed it is this tendency that both multiplies the names of cutaneous complaints, and renders them and the descriptions to match them, always behind the varieties of nature after all. We can hardly help agreeing with those, who think both names and distinctions multiplied too much already. Too numerous to permit simplicity, they never can be numerous enough to form a perfect picture of nature. The broad features of these, as of some other disorders are the only ones that need be cared for at the bed side.

But to return to Scabies Impetiginosa, Dr. Willis observes:—" the patient, a girl only twelve or thirteen years of age, presented herself to me among the crowd at the Infirmary for Children, and I did not doubt from a hasty glance that I had to do with a case of Impetigo, which I characterized as I. Scabida, from the peculiar appearance of the crusts. But the constitutional and local treatment recommended did little good; the disease went on unaltered in its characters. After a time, a more careful scrutiny led to the detection of numerous extremely minute vesicles, and it was now evident that though impetiginous in its more striking features, it was only secondarily so. The routine practice for Scabies—the inunction of strong sulphur ointment—was now prescribed; but in four days the girl presented herself decidedly worse, the extremities so stiff and painful that she could scarcely move them, and she had only walked to see me with extreme difficulty. The sulphur ointment was not repeated; a couple of grains of calomel on alternate nights, followed next morning by a dose of infusion of senna and a neutral salt, and the tepid bath every day, were ordered for a week. At the end of this time the disease was much less irritable, but fresh vesicles and pustules were still appearing, and the pruritus was perhaps more violent than it had ever been. The sulphur ointment diluted, was again adventured on in the manner already recommended, (vide Scabies Purulenta,) and this time with success; within a week there were no more than red traces of the disease to be discovered on the whole of the arms and trunk. On the thighs the disease was not subdued, and there it required a recurrence to the antiphlogistic, constitutional, and soothing topical plan before it could be got rid of, which it was however very completely in the end."

FASCICULUS X. depicts *Eczema Acutum—Strophulus Eczematodes—Cancrum Oris*—and *Herpes Iris.*

In a case of acute eczema, which our author witnessed, the eruption extended from the roots of the hair over the forehead and face, including the ears, the whole of the throat, nearly to the line indicated by the outer edge of the trapezius muscle on either side, and the entire anterior aspect of the thorax from the shoulders to the epigastrium. The whole of this extensive surface in a large and rather corpulent man was of the deepest crimson, the surface being everywhere partially concealed by rounded and angular pale yellow coloured, flimsy incrustations, which were here and there moist and pliant, in other places dry and unyielding.

Eczema is so common a complaint, at least in private practice, that accurate ideas should be entertained on the subject of its treatment. Acute eczema it is true, is rare, but *it* occasionally happens, and chronic eczema is frequent enough.

Dr. Willis says that, for acute eczema, blood-letting may often be practised with great advantage; although, as the part implicated is not immediately necessary to the actions of life, this measure should never be carried to any length. Topical blood-letting around or in the neighbourhood of the seat of the eruption is always advantageous. All topical applications ought to be of the soothing and relaxing kind.—Tepid bathing, folds of soft linen dipped in simple tepid water and kept constantly applied to the parts affected are extremely soothing. Saline medicines and antimonials are indicated, and the bowels should be kept in a lax condition by the use of one of the aperient neutral salts. Depletion, in one shape or other, and carried, according to circumstances, to a greater or a less extent, is *the* thing for eczema, acute or chronic.

Herpes Iris is a rare affection, and many of our readers may never have witnessed it. It is usually observed in the young. Dr. Willis has seen it in two instances. He gives an account of it as it appeared in a female seventy years of age. " The eruption," he says, " was preceded and accompanied by a good deal of tingling and smarting in the parts affected, and by a considerable amount of general constitutional disturbance. It began with circular patches, which showed themselves principally on the palmar, dorsal, and lateral aspects of the fingers, over the joints and knuckles, though some also occurred on the insteps and ankles, and several on and around the elbows. The centres of the patches were occupied by a pale raised wheal, which at first was not vesicular, though it looked as if it contained fluid; this was surrounded by a narrow ring of rather dusky inflammation; which was inclosed, in its turn, by a second also narrow ring of a pale pink or waxen hue, raised like the central spot; a third ring of dusky inflammation surrounded these two, the colour of which was gradually lost in that of the surrounding skin. Although the central spots generally looked vesicular, fluid was only discovered in one of them; the others, at an early period, were certainly solid, and bled when they were pricked; at a later stage they were made up of loose epidermis of considerable thickness that appeared to have been detached by effused fluid. In no instance was the second raised pale coloured ring found to contain fluid. Each spot preserved its characteristic appearance for six or seven days; it then began to desquamate, the cuticle becoming loosened first in the centre, and next over the pale raised ring, but being finally detached from the whole of the inflamed area. The eruption continued during the course of nearly five weeks; as one spot faded and desquamated another made its appearance."

In all the cases of *Cancrum Oris* which Dr. W. has seen, the disease appeared to begin in the gums. These parts, he observes, without having exhibited any great degree of previous swelling, though they may have been red and painful for some time, seem to lose their vitality on the surface and especially along the margins in contact with the necks of the teeth; they appear as if covered with a layer of false membrane, which however is sunk into rather than deposited on them; they look exactly as if they had been changed into so much moist and ragged chamois leather. The living structures in contact with the sphacelated portions are red and painful, and bleed with the slightest touch. There is at the same time a considerably increased secretion of saliva, which dribbles from the mouth, especially while the patient is asleep, and the breath becomes horribly offensive. The teeth now become loose, and unless the disease ceases to make progress of itself, or a check is given to it by the interference of art, the alveolary processes perish from necrosis, and the teeth drop out. The disease at the same time generally extends either inwards, involving the tongue, or more commonly outwards, implicating the inside of the cheek, which then presents a sloughy spot, having the same general appearance as the gums. This is a very serious symptom. A grey or livid or dark coloured purple spot then appears on the cheek externally, which by and by becomes brown or black and then shrivels and dries: the whole thickness of the cheek has been stricken with gangrene; and though the extent of the part so involved may at first be no more than a spangle or split pea would cover, the mischief extends with frightful rapidity; the sphacelated spot on the second day will have the magnitude of a fourpenny or sixpenny piece; on the third, of a frank or shilling, on the fourth, of a halfpenny, penny, or even crown-piece, and so on; the mischief extending to the same extent internally, the soft parts losing their connexions with the bones beneath, and the bones themselves becoming affected with necrosis.

Dr. Willis has seen many cases at the Infirmary for Children, and the following treatment he has found very successful. "I have very commonly," he says, "begun the treatment by the exhibition of an emetic of ipecacuanha, followed after a proper interval by a purge of compound powder of jalap and calomel, which it has generally been found necessary to repeat oftener than once, and then by saline medicine with tartrate of antimony. In the milder cases the diluted hydrochloric acid is the topical application upon which I have generally depended, but this has been sometimes replaced by a strong solution of one of the metallic salts, such as sulphate of copper, sulphate of zinc, or nitrate of silver. In the severer forms, where the disease was spreading onwards to the tongue and cheeks, or had already reached these parts, the strong nitric or sulphuric acid becomes the proper application. I have generally prescribed the former. The kind of stimulant or escharotic is not, however, as I imagine, of any great consequence. The disordered actions in the system generally, the tendency of which was to cause the death of some of its parts, having been corrected by the effects of emetics, aperients, and saline and antimonial medicines, a local stimulus of power adequate to insure contraction in the weakened and over-distended capillaries of the structures immediately affected, is all that is necessary. If Peruvian balsam, tincture of myrrh, or pyroligneous acid suffice for this end, there is no necessity to have recourse to the hydrochloric, sulphuric, or nitric acid. A solution of the chloride of sodium, or chloride of lime, is an excellent means not only of correcting fetor of the breath, but of stimulating the diseased parts and disposing them to healthy action, and should always be recommended, even though escharotics of the most active character may be required at the same time. It is often advisable to extract teeth that are shaky, and apply stimulants or escharotics to the sockets." We would observe that Dr. Willis *never* prescribes wine in the diseases of childhood. "Panada with a little new milk; sago or arrow-root sweetened with sugar and seasoned with lemon or orange juice, our ordinary fruits baked or boiled, and sweet oranges, I have always seen to agree, and I think to prove beneficial."

FASCICULUS XI. delineates *Syphilitic Maculæ—Syphilitic Tubercle—Syphilitic Lichen.*

FASCICULUS XII. has another representation of *Syphilitic Tubercle—Syphilitic Pustule—Warty Syphilitic Eruption.*

FASCICULUS XIII. has *Syphilitic Verrucæ* on the penis and at the anus—*Syphilitic Lichen* again—*Syphilitic Eczema* desquamating—*Syphilitic Exanthema.*

FASCICULUS XIV. has *Psoriasis Inveterata—Eczema Impetiginodes—Impetigo Sparsa Capillitii—Impetigo Sparsa et Conferta Capillitii.*

FASCICULUS XV. (the last which has been published,) contains *Lichen Simplex* desquamating—*Ecthyma—Tumor Follicularis*—and *Nævus.*

Speaking of *Follicular Tumor,* (Molluscum ?) Dr. Willis observes that, the sebaceous follicles of the skin are subject to a considerable number of affections, which by writers on diseases of the skin have been separated from one another, and referred to very different parts of their nosological charts. We sometimes see these follicles considerably increased in size, assuming a morbid activity, and pouring out such a quantity of sebaceous matter that it dries and concretes on the surface in the guise of a continuous crust of ceruminous matter, which looks extremely like altered epidermis. This is most apt to happen on the face; and a disease of the sebaceous follicles of this part, of the kind described, has actually been described under the title of icthyosis of the face. Again, the secretion of the sebaceous follicles is often altered in quality; in particular, it becomes so thick that it cannot escape on the surface which it is designed to lubricate, but remains pent up in the secreting cavities, and there it either remains quiet and causes what are called CRINONES or grubs of the skin; or exciting inflammation in the surrounding dermal tissue, it gives rise to the pustular disease named ACNE; or accumulating in larger quantity and producing a kind of hypertrophy in the follicle, an elevation or tumor of the surface is the consequence.

He adds:—"There can be little doubt of the disease which Dr. Bateman described under the name of MOLLUSCUM, being due to the distention and induration of the sebaceous follicles. The disease is most common on the face and neck. The tumors which constitute it vary from the size of a small pin's head to that of seed-pearl, or small peas. When attentively examined, these little tumors, which the vulgar often call warts, are found to have a rough and depressed point at one part, which indicates the natural orifice of the follicle, now enlarged and distended. They are of a waxy white colour, sessile or pediculated, and have often a sort of opalescent semi-transparency. It is very common to observe several children of the same family affected with these follicular tumors; and the writer has on two occasions seen the disease to all appearance transferred to the neck and shoulder of the mothers of infants who had many of them upon the face. However unlikely, therefore, the disease would really seem to be contagious." These follicular tumors are commonly seen in early life. They are readily emptied after being punctured with a lancet, and frequently their contents do not again accumulate. They may certainly be prevented from doing so by a due application of caustic to the secreting surface of the cyst. When the tumors are pediculated they are readily and effectually removed by being tied with a fine silk thread.

In concluding this notice of the Fasciculi before us, we cannot refrain from pointing out their general accuracy and pictorial merits. The collection of plates, when complete, will be highly valuable, and the work is richly deserving of encouragement. It must be a matter of regret that its price will put it beyond the reach of many members of the profession, but when we consider the extensive nature of the subject, and the costliness of art in this country, it is only what might be expected. We wish Dr. Willis, a very zealous and a very well-informed physician, every possible success, and we shall not forget to bring the subsequent Fasciculi before our readers as they appear.

THE CYCLOPÆDIA OF PRACTICAL SURGERY, EMBRACING A COMPLETE VIEW OF ALL THE DEPARTMENTS IN OPERATIVE MEDICINE. Edited by *William B. Costello*, M.D. Member of several Learned Societies, National and Foreign. Part V. London, Sherwood and Co.

THE fifth Part of this Cyclopædia arrived too late in the quarter, to be included in the same notice with the other Cyclopædiæ. Our space is too crippled here to allow us to do more than merely enumerate its contents. A further account of them will be found in our next number.

The articles are :—Asphyxia, P. Bennett Lucas, Esq.; Auscultation, Charles Benson, M.D.; Avulsion, J. M'Farlane, M.D.; Balanitis, Henry James Johnson, Esq.; Bandage, H. T. Chapman, Esq.; Bladder, W. B. Costello, M.D.; Blister, Alexander Ure, M.D.; Blood-letting, J. Wardrop, M.D.; Bone, T. Spencer Wells, Esq.; Bougie, W. B. Costello, M.D.; Bronchotomy, T. Spencer Wells, Esq.; Bubo, Henry James Johnson, Esq.; Burns and Scalds, Alexander Ure, M.D.

The Editor has redeemed his promise of publishing the present Part in March, and we trust that the subsequent ones will appear at the appointed times.

A TREATISE ON SIPHILIS. By *Herbert Mayo*, F.R.S. Senior Surgeon of Middlesex Hospital, formerly one of the Professors of Anatomy and Surgery to the Royal College of Surgeons. London, Henry Renshaw. 8vo. pp. 128.

MR. MAYO must be well known to all our readers. He is one of the readiest writers in the surgical world. We have been indebted to him for commentaries on Anatomy and Physiology, a Manual of Anatomy, Elements of Physiology, a Manual of Pathology, a Treatise on Diseases of the Rectum, a Treatise on Indigestion, a Series of Letters on Animal Magnetism, and the present work upon Siphilis, besides some papers which may at this moment escape our recollection. Medicine, surgery, physiology, pathology, have been enriched by his observations, which have been always ingenious, frequently acute, but too commonly precipitate. Perhaps it would have been better had Mr. Mayo displayed less facility and more caution. His authority would have been more respected, and his position more stable, than they are at the present moment.

The work before us having already appeared in the shape of detached Essays in a contemporary Journal of extensive circulation,[*] it is not consistent with the plan we have acted on, to review it or to analyse it. We shall limit ourselves to a few words on the " Conclusions," with which our author winds up the work.

1. " The first point of inquiry relates to the means of discriminating the primary local disorders that are liable to be followed by constitutional lues. I have not thought it necessary among these disorders to enumerate gonorrhœa. Either gonorrhœa never originates lues, or originates it in so few instances, that it would be extravagant to superadd to the treatment of that complaint a preventive course of mercury. The local affections which are certainly liable, but in very different degrees, to be followed by lues, may be divided into three kinds: first, those which are again so rarely followed by lues as to render a preventive course of mercury superfluous; secondly, those in which, though not unfrequently followed by lues, mercury is generally prejudicial; thirdly, those, which are in a large proportion followed by lues, to the speedy cure of which, and to the pre-

---

[*] The Medical Gazette.

vention of the lues consequent upon them, mercury has been ascertained to conduce. The first kind includes excoriations, herpes, preputial ulcers, warts; the second, ulcerative and sloughing phagedæna; the third chancre. The diagnosis of chancre is to be obtained in common cases by the direct knowledge of what are the appearances of other sores in their simple state, and what the natural appearances of chancre, and to what extent the features of both may be confused by inflammatory accidents. In ambiguous cases the history must be taken into account. M. Ricord's test by inoculation may likewise be advantageously resorted to. But, as I have stated, that test has less practical than speculative value. Taken alone it is insufficient to decide the question of treatment. A decided mercurialist certainly would not prescribe mercury in many cases of primary sores, inoculation from which will produce an ulcer resembling chancre."

This appears to us to be a fair expression of the facts.

2. The arguments for and against the mercurial treatment of "chancre," (the word were well expunged) are thus stated :—

"The arguments in support of the non-mercurial practice, and against the use of mercury are—that a mercurial course is a serious inconvenience to any one, and that to many constitutions it is most injurious;—that every primary sore may be healed without mercury;—that the most serious form of lues, ulcerative cutaneous disease, namely, is probably not capable of prevention by a mercurial course;—that the other secondary symptoms are, in the majority of cases of non-mercurial treatment, extremely mild;—that they supervene earlier, and are generally sooner over, where a course of mercury has not been used for the primary complaint;—that the secondary symptoms which occur where mercury has not been used, are in no cases more severe than in many in which the mercurial treatment has been followed;—that mercury does not prevent, but only lessens the frequency of, constitutional lues, its direct action apparently being to put off the invasion of lues so long, that in a certain proportion of cases the impression of the taint wears out before it has given rise to secondary symptoms. These considerations are so favourable to the non-mercurial practice, as to render its adoption adviseable in all cases in which, from inherited or accidental peculiarity of habit, mercury is likely to prove injurious; in cases in which the patient has unluckily, through the recurrence of primary sores, undergone several mercurial courses in a short space of time, and is weakened in health; in cases in which the primary sore has already existed a long time, in cases in which there is a reasonable doubt whether the local affecion is syphilitic.

The considerations which, on the other hand, favour the mercurial practice, are, that to persons of a good constitution, a mercurial course, properly managed, very rarely proves detrimental;—that on a comparison of all the evidence, there is reason to believe that the proportion of cases in which secondary symptoms appear after non-mercurial treatment is greater than where mercury has been used;—that it is highly probable that among the attacks of secondary siphilis prevented by mercury, are several of the severest kinds (setting aside the ulcerative);—that if the general tendency of mercury, where it stops short of preventing secondary symptoms, is to protract the whole period of the disease, yet that this is not constant, and that without mercury equally lasting attacks are met with;—that on Mr. Rose's own estimate, the proportion of cases in which secondary symptoms occurred under the non-mercurial practice is much higher than commonly imagined: Mr. Rose observes, that out of one hundred and twenty cases of venereal sores which he had himself treated without mercury, one out of every three was followed by some form or other of constitutional affection; 'but this, however,' he adds, 'was in most instances mild, and sometimes so slight, that it would have escaped notice, had it not been carefully sought after;' and a similarly close scrutiny might detect many overlooked cases of lues after mercurial courses.—Finally, that in cases of indurated chancre, the period of recovery is shortened by the use of mercury; that the sore is so healed thoroughly and soundly, and that all chance of the local complaint again breaking out is thereby put an end to, and the risk of afterwards unsuspectingly so conveying infection avoided. Weighing these facts against those advanced on the other side, I think it fairly appears, that in a person of good constitution, the treatment of chancre, undertaken soon after its commencement, should include a full mercurial course.

There exists, indeed, a middle plan; namely, to employ mercury to the extent merely that may be necessary for the cure of the primary sore. By this means several of the advantages of mercurial practice are certainly obtained, and some of its evils avoided. In general, the quantity and duration of mercurial action required to heal primary sores does not amount to that which is supposed to be essential to the prevention of constitutional lues. This plan may be viewed as the most advisable practice in cases of indurated chancre, in which the disease has already gone on for several weeks without any use of mercury."

We are inclined to look on the arguments for a mercurial course as understated. Mr. Rose, himself, is well known, in later life, to have practically turned his back on the non-mercurial treatment, and we can ourselves testify to his extreme want of success from non-mercurial remedies. If we are not much mistaken, Mr. Guthrie, whose earlier cases looked so promising for that method, will not be found to treat the chancres of his private patients without mercury—admissions these, as significant as possible of *some* fallacy *somewhere* in the non-mercurial method. That *that* is inferior to a moderate mercurial one, we are as convinced as we are of any thing in medicine.

Of the "middle plan" of which Mr. Mayo speaks, and to which he seems to lean, we can entertain no very favourable opinion. The great use of mercury is ultimate security. Does *it* give *that?* If a person has not a *fair* course, he had better, in most cases, have none. We have seen these half-and-half mercurial courses tried; the result was not encouraging. We do not see why it should be applicable to an "indurated chancre which has already gone on for several weeks without any use of mercury." Induration and duration are no valid grounds for pushing mercury beyond a reasonable quantity; but neither do they seem to us to be grounds for keeping it down below that.

3. "The symptoms of secondary siphilis are pains, eruptions, and ulcers on the skin, falling off of the hair, soreness and ulceration of the fauces and nose, iritis, swellings of the bones and joints. Either of these may form the only symptom manifested. But in most cases several are grouped together simultaneously or by succession; and the phenomena of the disease are conveniently displayed by supposing six modes of secondary siphilis, taking as the type of each the feature most developed in it. These six comprise three, in which the skin is the part prominently affected; one in which the throat, a fifth in which the iris, a sixth in which the bones, are the parts principally concerned. The rules for the treatment of each variety have important shades of difference; but one principle, with exceptions which I have specified, reigns throughout. The essential principle in the treatment of constitutional lues is to aim at no more than subduing the present attack, keeping the patient during the remissions of the disease in perfect but not rude health by the strictest regimen and course of living, in the expectation that the disease will thus eventually wear itself out. In the choice of remedies to subdue each attack, exclusive of the iritic, mercury is to be shunned, or to be resorted to most seldom. Mercury, with occasional rare exceptions, acts only repellently in secondary siphilis; it does not then extinguish the disease; it only then, like the other antisiphilitic remedies, represses the present outbreak. The fatal character which the disease often wore, so recently as thirty years back, arose from men's constitutions being destroyed by repeated courses of mercury, given in the vain expectation of cutting short the disease when in its constitutional form, and in the still more mischievous

belief that nothing but mercury would cure even the present attack; and that the worse the symptoms grew under its administration, the greater became the necessity of continuing it."

This, we think, takes a limited, if not erroneous view, of the treatment of secondary syphilis. But that is too wide a question to make the burthen of a paragraph.

We have presented these "Conclusions," because they give us the gist of the work. It bears the usual impress of Mr. Mayo's pen—rapid, sketchy, more bold in its generalizations than cautious—clear, because perhaps it has not depth—pleasing, from its easy style, if not from its light matter—we perceive in it the author of the Outlines of Physiology.

APHORISMS ON INSANITY. By Dr. *Millingen*. Duodecimo, pp. 202. Churchill, February, 1840.

IT was naturally to be expected that, when a ready writer and keen observer, like Dr. Millingen, was thrown into the management of a great lunatic asylum, like Hanwell, he would turn the appointment to advantage, and either make original observations or polish those on record, so as to bear a new and attractive aspect. Dr. M. has done both—and he does a third thing, as important as either—selects the wheat from the chaff of lunatic literature, and in one small pocket volume, has compressed more real and solid matter than could be gleaned out of any dozen of octavos on the same subject. The work is thrown into 503 aphorisms, and as these are conveyed in concentrated language, it is impossible to offer any thing like an analysis of them. All we can do is to quote a few specimens, taken almost indiscriminately, by which the reader may form some estimate of the volume. We may preface these samples, however, by stating that our author makes war on many of the "things that be," not being very sparing of criticism—or even censure, when either "mad doctors," or mad-houses come in his way.

"Thus are the junior members of the medical profession engaged in practice, with scarce any knowledge of the nature of insanity, or the treatment of the insane; while their constant occupations, which barely leave them leisure for such indispensable reading as is required to keep them on a level with the progress of the science, prevent them from studying a disease which they are seldom called upon to attend, and is considered as the special province of those practitioners whom the public dignify by the appellation of '*Mad Doctors*;' and, even amongst these privileged persons, the treatment of mental disease appears to be grounded on certain dogmatic principles; bleeding, blistering, purging, vomiting, and head-shaving, being considered immutable remedial agents, aided by the strait-waistcoat, the sleeve, the muff, the handcuff, or the leg-lock, with an occasional plunge in cold water, or a shower-bath, when the patient is unruly, and sane enough to consider himself most barbarously ill-used. With this view of the subject, we find that in certain lunatic institutions the unfortunate inmates are bled in the month of June, and are prescribed an emetic 'all round' every quarter. The science of 'mad doctors' seems to consist in the art of obtaining as many patients as they can in private asylums, and to keep them as long as possible."

This, we believe, is applicable to a very few of the respectable asylums and their keepers.

APH. 1. *Definition*.—"Every morbid state that influences our reflective, observant, and imaginative faculties, disables an individual from conducting the process of reasoning, or the sound and healthy exercise of his mental attributes, constitutes insanity."

APH. 5. *Etiology.*—" Experience tends to show, that the first causes of insanity may be traced more frequently, to mental agency reacting upon the physical functions, until symptoms of a peponderance of the physical phenomena prevail. Thus a sudden moral impression of a violent and intense nature will produce a rapid deviation of the mind from its normal course—when physical phenomena, such as the hair turning white in the course of a few hours—the liver becoming diseased—the cerebral organ engorged and inflamed; will be developed with a rapidity scarcely credible."

APH. 21. " Religious delusions are no doubt the occasional cause of insanity, but these ideas are more generally an effect than a cause, and are to be attributed to the gloom and the fears of the melancholic, who are constantly foreboding evil."

APH. 43.—" *Post mortem* examination frequently exhibits morbid alterations of the structure in the brain and its membranes; but we must recollect that during the violent paroxysms of insanity there is a constant determination of blood to the head, similar to that congestion which arises when a man is under the influence of passion. In such a delicate organ it is natural to expect that some morbid appearance will be traced. Repeated intoxication will be followed by similar results: frequent inebriety may therefore be considered as a powerful predisposing cause, by producing increased action so often, as ultimately to lead to a derangement of the mental faculties."

Had our space permitted, we should have adduced several other Aphorisms here; some will be found in another place. In the mean time, we beg to recommend this vade mecum as the best thing of the kind we ever perused.

AN ATLAS OF PLATES ILLUSTRATIVE OF THE PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY. With descriptive Letter Press. By *Francis H. Ramsbotham*, M.D. Member of the Royal College of Physicians, &c. Nos. 1, 2, and 3. London: John Churchill, 1840.

DR. RAMSBOTHAM observes, in a brief Preface, that " should any apology be deemed necessary for obtruding on the medical public a new work on obstetric science, it may, perhaps, be furnished by the interest which that department of medicine has acquired of late years, and the attention it now commands from the profession. The numerous valuable publications on the subject that have recently issued from the press, forcibly demonstrate the high position it has attained as a part of medical studies; and it is confidently hoped that the present addition to the stock of obstetric literature, drawn up on a somewhat novel plan, will not be considered altogether superfluous."

The object of the Work is to place in an attractive, concise, and lucid form before the Student, those principles of obstetric science which must engage his earliest attention. It will be completed in Twelve Monthly Numbers. Each Number will contain six finely executed Plates on steel, descriptive letter-press, and wood engravings printed with the text. The price of each Number is one shilling and sixpence, a price extraordinarily low, for the quantum of matter as well as for the mode of execution; for the plates are engraved on steel.

The *first Part* presents to us the Pelvis and Fœtal Head.

The *second Part* depicts distorted pelves, and the method of ascertaining the diameter of the Pelvis.

The *third Part* contains another view of distorted Pelves, and delineations of the External and Internal Organs.

We can speak very favourably both of the letter-press and of the plates, and as a large sale can alone remunerate the publisher, we wish him that large sale which he deserves.

Spirit of the Foreign Periodicals.

ON OBSTETRICAL AUSCULTATION.

The following summary of an elaborate thesis, recently published at Strasbourg by Dr. *Carriere,* will probably be read with profit as well as interest.

Dr. C. alludes to the more than ordinary difficulties which attend the successful pursuit of this branch or department of auscultation. He admits that he was often foiled in his early attempts, and that it was only by the most assiduous perseverance that he at length succeeded in being able to recognise the various sounds which have been described as emanating from the uterus when in an impregnated state. He does not however hesitate to assure his readers that any one may, by repeated practice, acquire—provided his hearing is of average delicacy—the necessary aptitude to recognise, and that too with facility, all the auscultatory signs of pregnancy.

Let the young practitioner therefore be not discouraged, if he should fail in his early researches, but let him perseveringly avail himself of every opportunity to accustom his ear to the sounds which are audible in the abdomen, whether in the impregnated or unimpregnated state; and he will probably be rewarded, much sooner than he expects, with success to his desire.

The first point which Dr. C. examines is as to the proper position of the woman during auscultation. Some prefer that she should be standing, others that she should be in the horizontal position. Dr. C. gives the preference to the latter position; although he admits that it is occasionally useful to examine the patient while standing.

The next point is the question of the comparative advantages of the stethoscope and of the naked ear in obstetrical auscultation. There has been considerable difference of opinion here. MM. *Dubois, Hohl,* and *Nægele* give a decided preference to the use of the instrument; while *Ulsamer, Haus,* &c. have rejected it entirely. M. *Stoltz* says that the naked ear suits very well those cases where the abdominal parietes are closely in contact with the uterus, *(immediatement appliquées sur l'uterus,)* and that the stethoscope is preferable in those where it is necessary to press these parts much inwards. On the whole, however, he generally makes use of the instrument. Dr. *Carriere* quite agrees with his preceptor in this opinion. Besides the inconvenience of applying the cheek to the abdomen, the ear, when directly applied, is liable to be confused with the different sounds proceeding from the bowels, and thus is much less fitted to appreciate the strictly uterine *bruits.* Besides, as *Laennec* himself remarked, when we employ immediate auscultation, the physician is obliged to employ more force than when the stethoscope is used in pressing the abdominal parietes inwardly, in order to bring them into close contact with the uterus. This is more especially true in the early stage of pregnancy. Indeed Dr. C. affirms that "it is impossible to auscult with accuracy before the fourth or fifth month unless we use the stethoscope." If the instrument does not render the sounds louder, it certainly makes them clearer and more distinct.

The following is the manner in which Dr. C. proceeds in his examination. He commences by applying the end of the stethoscope, the plug being removed, to the left iliac region, because there the double pulsation or tictac of the fœtal heart is most frequently heard. If it is not audible there, he moves the instrument a little up, then down, then to the outside, and lastly to the inside of the spot from which he started, thus proceeding from the left iliac region as from a centre. As soon as he discovers the pulsation he then follows it step by step as it were, so as to determine the direction in which it is heard, and the precise point at which it is loudest and most distinct.

Even when we discover the cardiac tictac in the left flank, it is always right to examine with equal care the opposite one, as it is possible that another pulsatory sound may be heard on the right side.

Having thus satisfied ourselves of this most important phenomenon, we should then endeavour to detect the other acoustic sign of pregnancy—the blowing or placentary sound.

"In women," says Dr. *Carriere*, "whose pregnancy is but little advanced, as far as the third or fourth month for example, the placentary or blowing sound is to be sought for immediately above the symphysis pubis, the fundus of the uterus scarcely overtopping at this period the plane of the inlet of the pelvis. In such an examination it is quite necessary that the woman should be lying on her back, with the limbs drawn well up so as to have the abdominal muscles relaxed, and that the stethoscope be used for the purpose of pressing them well in upon the uterus. This is especially important at the early periods of pregnancy; as, then, not only should the abdominal parietes be kept in immediate contact with the uterus, but also this viscus with the contents within its cavity."

Never let the young auscultator abandon the pursuit of this phenomenon, however much he may be foiled in his early attempts. Let him again try the experiments in the same case in the course of a day or two; and let him persevere in this manner, but without fatiguing himself too much at any time, until he succeed in detecting the sought-for sound. *Laennec* has alluded to the intermittence of certain stethoscopic phenomena, and has strenuously urged the importance of frequently resuming the attempt, however unsuccessful the pursuit may be at first.

Dr. C. next alludes to some of the possible causes of error into which the unpractised obstetrical auscultator may fall.

1. The sounds of the heart and of the respiration of the mother are in some cases communicated along the abdomen, and may be distinctly heard, when the ear is applied over the epigastrium. The one sound has been mistaken for that of the fœtal heart, and the other for the placentary bruit. Very slight attention however will guard against such errors.

2. The sounds proceeding from the intestines may disguise, but certainly they cannot imitate, the genuine uterine sounds.

3. Lastly, the sounds proceeding from the muscular contraction of the limbs and body of the observer himself—a sound which resembles the distant rolling of a coach, or the noise of a fall of water—should be guarded against.

On the whole however, it will invariably be found that, when once the ear has been accustomed to the genuine uterine sounds, it is not likely that they will be confounded with any other, as they have a very peculiar and distinguishing character.

We shall now make a few remarks on each of the two uterine sounds.

1. *The Blowing Sound.*—All authors agree that this sound is much more inconstant, fugitive, uncertain, and difficult of detection, than that of the fœtal pulsation. Some indeed have gone so far as to deny its existence altogether; and others have described it in such terms as must lead us to imagine that they in truth never heard it. Dr. *Carriere*, while he admits the frequent difficulty of discovering this sound, assures his readers that its leading characters may generally be detected by any attentive observer, whose ear has been sufficiently practised in obstetrical auscultation. He thus describes it:—

"This phenomenon consists usually in a sort of jerking sound (*bruissement saccadé*) more or less prolonged, and interrupted by regular intervals: it has been frequently compared to the sound proceeding from certain arterial aneurisms.

Laennec compares it to the blowing noise frequently heard in the large arteries of chlorotic patients; *Velpeau* to the sound of muscular contraction, or to that produced by strongly compressing arterial trunks. To say the truth, it is certainly not easy to convey to those who have not heard it, a right idea of the uterine blowing sound."

Whatever be its character, it is always strictly isochronous with the pulse of the mother,—becoming duller and more prolonged, when the pulse is slow; and more short and dry, when the pulse is quick. It is never accompanied with any shock; and it is usually limited to a circumscribed spot, decreasing in distinctness as the stethoscope is removed from the point where it is heard loudest. Let it also be remembered that at one moment it may be heard distinctly, and that the next minute it may be quite inaudible; its tone or character being often found to vary in the course of a few minutes. It is generally imagined that the blowing sound is heard on the opposite side of the hypogastrium from that on which the fœtal pulse is perceptible. That this is not always the case will appear from the circumstance that, out of sixty-one cases observed by Dr. *Carriere* and in which the exact position of the two sounds was carefully noted, they—the sounds—were heard on the same side in not fewer than thirty-four.

Of sixty-six cases, where the position of the blowing sound was noted, it was heard on the left side in thirty-eight, on the right side in twenty-eight, eleven times about the middle of the hypogastrium, seventeen times higher up, and thirty-eight times low down; or we may state these results in a different manner, the *bruit de soufflet* was heard twenty-one times on the left side and low down, seventeen times on the right side and low down, eleven times on the left side and high up, five times on the right side and high up, six times on the left side and in the middle, and six times on the right side and in the middle.

With respect to the earliest period at which this sound may be heard, Dr. C. informs us that he has in several cases succeeded in detecting it as early as the end of the third month, when the fundus of the uterus had scarcely passed above the level of the pubis. Far from being diffused at so early a period of pregnancy as *Hohl* has alleged, Dr. C. always found it to be limited to a very circumscribed spot at first.

As this sound is intimately connected with the circulation in the placenta, it is obvious that it must be audible earlier in some cases than in others, as it is well known that the placenta varies a good deal in the place of its attachment to the uterus in different cases; being sometimes near to the fundus and in other cases considerably lower down. The higher up that it is, the more early, we may expect, will be the development of the blowing sound.

As pregnancy advances, it becomes much louder and more readily recogniseable. However it is not always loudest in the eighth and ninth months; being in some cases observed to be much more distinct and obvious in the seventh. The causes of the various modifications of this sound in different cases are certainly not well known.

During the uterine contractions, or *pains*, of labour, the blowing sound becomes much weaker, or is altogether suspended—returning however after the pain has passed away.

It is usually much more distinct after the amniotic waters have been discharged.

Not unfrequently it continues for several hours after the expulsion not only of the fœtus, but of the placenta also. Dr. C. is of opinion that this persistence of the sound after delivery is connected with the more or less imperfect contraction of the uterus upon itself.

Before quitting the subject of the blowing uterine sound, it may be useful once more to repeat that the failure of detecting it on one examination is never sufficient evidence, even with the most experienced auscultator, that it is altogether absent. What may be the cause of its occasional interruptions has not yet been explained; but that such is the case, will not be denied by any who have had ample opportunities of practical information.

It has been alleged, and apparently with reason, that an excessive quantity of amniotic fluid has the effect of obscuring the blowing sound. The attachment of the placenta to the posterior wall of the uterus will no doubt have a similar effect.

Again, the death of the fœtus is probably always followed by a diminution or even by a total suspension of the blowing sound.

As to the proximate cause and seat of the blowing sound, Dr. C. refers them to the circulation of the blood through the placenta.

The opinion maintained by *Haus*, *Bouillaud* and others, that this phenomenon is owing to the compression of the gravid uterus on the iliac arteries, is in his mind altogether untenable. Its seat is by no means in most cases correspondent with the direction of these blood-vessels; and moreover the genuine uterine blowing sound, although analogous to that produced by pressing the end of the stethoscope firmly over the *trajet* of a large artery, is certainly not identical with it.

Dr. *Carriere* has repeated the experiment of *Laennec*, of making the woman lie first on one side and then on the other, so as to cause a variation in the point of the chief compression of the iliac vessels and consequently in the place occupied by the blowing sound—if it be really attributable to such compression; but with no better success than his predecessor.

Without canvassing the opinions of other writers as to the cause of this sound, we shall now briefly state the views of Dr. *Carriere* on this much-disputed point.

"I am quite satisfied in my own mind that the uterine blowing sound has its cause in the passage of the arterial blood in the uterine sinuses, and that in the great majority of cases its seat corresponds exactly with the insertion of the placenta.

In a number of cases where I have passed my hand along the umbilical cord after the delivery of the child, I have always found that the placenta has been attached exactly at that point of the uterus over which the blowing sound had been heard during gestation. In one interesting case of death from convulsions within twenty-four hours after delivery, the place still quite visible on the inner side of the uterus where the placenta had been adherent, was found on dissection to correspond precisely with the spot where the sound had been perceived during life. I believe with M. *Dubois* and others that the mechanism of the blowing sound has something analogous with that of the sound heard over an aneurismal varix—its determining cause being the flux of the arterial blood into the uterine sinuses, a flux which is more active and considerable at the point where the placenta is implanted."

Occasionally, but this is rare, the blowing sound is perceptible over almost the whole anterior surface of the uterus.

"This fact," says Dr. C. "which denotes great activity in the uterine circulation, does not at all militate against the opinion which I profess relative to the relation of the blowing sound to the placenta; for I have never pretended that the dilatation of the uterine vessels was limited abruptly to its circumference; and on the other hand I am convinced that, in those cases where the sound is unusually widely diffused, it is always more decided and sibilant at the one point where the placenta is implanted."

With respect to the value of this blowing sound as a sign of pregnancy, Dr. C. is inclined to consider it as an almost certain indication. He much doubts whether the presence of a tumor in the pelvis or in the uterus itself does ever give rise to the *genuine* blowing sound of pregnancy, although MM. *Velpeau*, *Rayer*, *Bouillaud*, *Bricheteau* and *Stoltz* have asserted that such has been the case.

This opinion of our author is confirmed by the high authority of M. *Dubois*—who denies that the uterine *souffle* is ever produced by any cause independent of pregnancy—and also of Mr. *E. Kennedy*.

With the latter gentleman he also believes that the sound may continue to be heard, but less distinctly, for some time after the death of the fœtus.

The force of the sound cannot indeed be ever taken as a sign of the vigour of the infant; it can only indicate an active circulation in the uterine vessels, and perhaps also the existence of a large placenta.

The Fœtal Pulse.—Dr. *Carriere* compares the double *tic-tac* of the fœtal pulse to the ticking of a watch wrapped round with several folds of linen, with this difference only, that the latter sound is drier and of a more metallic sharpness than the former. The number of pulsations varies from 120 to 180; the average frequency may be said to be 140 beats in the minute. In force and distinctness too they are found to differ much not only in different cases, but also in the same case at different times; sometimes they are so distinct that they are at once and without the least difficulty perceptible, whereas in other cases it requires the greatest attention and nicety of observation to detect them at all. Occasionally the fœtal pulsation appears to be simple and not double, as usual, the second sound of the heart's action being quite obscured.

In reference to the comparative constancy of the two uterine sounds—viz. the placentary and the fœtal—it has been asserted by almost every writer on obstetrical auscultation, that the sound of the fœtal heart is greatly more constant than the placentary or blowing noise.

Were we to judge from the results of a single examination in a given number of cases, we should at once assent to such a judgment; but as we have seldom failed ourselves to detect the latter sound, if the auscultation has been repeated several times at short intervals, we are inclined to hesitate somewhat on this point.

" In consulting," continues Dr. C, " a summary of the observations, which I have made since the period when I could place confidence in my auscultatory enquiries, I find that out of fifty-nine cases, the blowing sound was detected in fifty-seven, and the fœtal pulsation in fifty-seven also. In these reports, I find it frequently remarked, ' no blowing sound appeciable;' or, ' blowing sound feeble at such a point;' then afterwards, perhaps in a few days or a week or two, ' blowing sound strong, intense, or even whistling, &c.' It is therefore quite manifest that, before we can establish the relative constancy of the two signs, we must not trust too much to the results of a single, or even of a few observations. If a woman be examined but only once, there is certainly on the whole a greater chance of detecting the fœtal pulse than the blowing sound."

Most obstetrical auscultators agree that the fœtal pulse is rarely, if ever, heard before four months and a half or five months have elapsed. We cannot wonder at this when we remember that the organ, even at this latter period of intro-uterine life, is still very small, and that moreover the fœtus lies low down towards the cervix of the womb, and therefore behind the symphysis pubis. Even for a month or two later, the great relative quantity of the amniotic fluid, the mobility or want of fixed position of the fœtus, the size of which is not yet nearly sufficient to fill the bag of the membranes, &c. are circumstances which tend, even up to the middle of the sixth month of gestation, to occasion many chances of unsuccess.

The sound of the fœtal pulse always becomes louder, and more diffused, when the waters escape, more especially when these have been very copious. The pains of labour have usually the effect of rendering the fœtal pulsation slower, feebler, and less regular than they were before. During a protracted labour, the number of pulsations generally becomes very sensibly diminished not only during the uterine contractions, but also during the intervals of rest.

Naegele has found them to fall down as low as sixty-five; and in one case where the umbilical cord was compressed, Dr. *Carriere* found them to be not more than fifty-five in the minute.

Here are the sentiments of our author as to the most common seat of the fœtal pulse.

"In the majority of cases the spot, which corresponds to the greatest intensity of the sound, is situated on a line between the umbilicus and the antero-superior spine of the ileum, or towards one of the iliac fossæ. In some cases the pulsations are found in the line of the *linea alba* between the pubis and the umbilicus; and, in a few rare cases, they have been perceived quite towards the fundus of the uterus.

The extent over which they are audible is very various; being sometimes only two inches square or so, at other times comprising almost the whole of the lumbar and iliac regions of one side; most frequently it is a space which may be covered with the hand."

With respect to the relative frequency of the occurrence of the fœtal pulse in different parts of the hypogastrium, Dr. C. makes the following remarks.

"In eighty-five cases, where I have accurately noted down the exact spot at which the fœtal pulse was perceptible, I found it seventy-four times low down, eleven times high up, forty-five times on the left side, thirty-seven times on the right side, and three times in the middle or along the line of the *linea alba*. Forty-three times its maximum of intensity was low down and on the left side, thirty times on the right side and low down, three times on the left side and high up; and seven times on the right side and high up. I may remark that, in several of the cases where it was heard high up, the pregnancy had not passed beyond the sixth or seventh month."

Before closing our remarks, we shall now briefly allude to one or two other auscultatory phenomena, which are peculiar to pregnancy.

If the fœtus happens to move while the ear is applied over the hypogastrium, we perceive a dull sound accompanied by a pretty brisk shock, not unlike to that produced by striking against a piece of stretched cloth with a smooth rounded and moderately firm body: sometimes it is a sort of undefinable *frolement*, or sensation of grazing sound, attended with a movement which may be felt and often also seen.

This last sound seems to be caused by the rubbing of one or several points of the fœtus against the walls of the uterus. Hence it is not uncommon to find that immediately after its occurrence there is an obvious change in the position, intensity, and frequency of the fœtal pulse, and also in the force and tone of the blowing sound.

The impulse as well as the sound now described are often induced by pressing the extremity of the stethoscope firmly against any point of the hypogastrium. *Naegele* pretends that they may often be perceived, even before the woman is sensible of quickening; but this requires confirmation.—*L'Experience.*

ON THE UTERINE VAGITUS OF THE FŒTUS.

Dr. *Marinus*, in a memoir read before the Society of Medical and Physical Sciences at Brussels, has collected together the particulars of a good many cases, in which this occurrence of the infant having been heard to cry before birth has been met with. The following are the circumstances in which this rare phenomenon has been noticed.

1. When the head of the child, the membranes having already burst and the os uteri being well dilated, rests at the inlet of the pelvis, or has descended more

or less completely into its cavity, whether it be the face, occiput, or side of the head that presents.

2. When the head is already in the vagina, engaged at the vulva, or fairly protruded beyond it, while the rest of the child is still within the cavity of the uterus.

3. When, in cases of presentation of the feet, knees, or hips, the head remains engaged in the vagina, the body and limbs being already born.

The phenomenon of uterine *vagitus* being once admitted, we are necessarily led to admit that the child can, under certain circumstances, breathe in the uterus. The act of respiration may therefore precede birth; and the child, which has thus breathed, may then die before it is born.

If such may be the case, a powerful argument may be drawn against the conclusions of pulmonary *docimasia,* as it has been called, or the phenomena exhibited by the lungs in cases of suspected infanticide. The objection, however, must not be urged too far; as it is quite true that uterine *vagitus* is a very rare occurrence. The mere possibility, however, of its taking place, justifies and exacts extreme caution in all our decisions, whenever the character and life of a fellow-being are involved.

Dr. *Lados* (Annales de la Societé de Medecine de Gand, 1837,) has related a case, where the *vagitus* was distinctly heard, but the child was born dead: on dissection, the whole of the right lung, and the upper lobe of the left one, were found to be dilated with air; the lower lobe of the left lung being still impervious to it.

The circumstance, therefore, of part only of the lungs being found dilated with air, may possibly be a presumptive post-mortem appearance in favour of intra-uterine respiration having taken place. This opinion will have more weight in any case, if it can be proved that the membranes had been ruptured for a length of time before delivery, and if any manual efforts to complete this had been made by the attendant.

There is still, however, great uncertainty on the whole of this subject; and, as there is a great lack of well-observed and well-authenticated cases on record, we cannot too urgently recommend our medical brethren to examine necroscopically all cases where the intra-uterine vagitus had been heard, and especially those where the children are born dead afterwards.—*Gazette Medicale.*

M. GENDRIN'S THEORY OF MENSTRUATION.

The following extract, from the recent systematic work on Practical Medicine, by M. *Gendrin,* will explain his views as to the cause or nature of the menstrual function.

"The observations, which we have presented to our reader's attention, necessarily lead us to modify very essentially the hitherto received opinions on the subject of generation in women. They tend to establish that, during the whole of that period of life when the capability of conception continues, there is a constantly-successive development of vesicles and ovula in the ovaries,—that, at each epoch of menstruation, a vesicle having reached the surface of the ovary becomes the seat or focus of a peculiar organic action, in which all the organs of generation partake,—and that the result of this action is the rupture of the vesicle and the loss of the non-fecundated ovum, either by ovarian destruction or by uterine expulsion.

The recent observations by *Valentin,*—according so well with, and therefore confirming, our deductions drawn from physiological considerations—have shewn that the Graafian vesicles contain or inclose an ovulum, in which are found all the essential parts of a human ovum.

As we find at the same time in the ovarium vesicles in various degrees of development, we cannot well doubt that they exist there only during a limited time or period, from their origin to their spontaneous rupture, which takes place whenever their increase and that of the ovulum are completed. This rupture takes place regularly, at stated intervals, by an organic action, one result of which is the menstrual secretion."

Dr. *Negrier*, professor of midwifery in the Medical School at Angers, has written, we observe, a letter to one of the French periodicals, in which he claims the priority of authorship in respect to the preceding views on menstruation. His words are:—

" The researches of M. *Gendrin* have led him to believe that the menstrual flux is the result of a periodic and regularly-recurring congestion, which takes place every month in the ovaries.

This doctrine I have taught in my lectures ever since the year 1830, and I have repeatedly shewn to my pupils the successive evolutions of the ovarian vesicles from their earliest development to their final rupture, as well as the condition of the uterus at its different phases."— *Gazette Medicale*.

MEMORANDA ON THE DISEASES PREVALENT AT ALGIERS.

The following memoranda are communicated by M. *Guyon*, chief surgeon of the French army in Africa.

" During the last twelve months (1838-39,) *Erysipelas* has been quite epidemic among both the civil and the military inhabitants.

As usual, it has complicated numerous cases of surgical injuries, and has thus added greatly to the general fatality.

The *Small-pox*, too, has been very extensively prevalent among all classes, European as well as African, of the population. Many of the cases—and these sometimes of the most malignant character—occurred in adults who had been vaccinated. During the first six months of 1839, the number of deaths—as well as it could be ascertained—from small-pox amounted to 152. Of these, seven occurred among the soldiers; 35 among the European residents; 78 among the Mussulmen; 28 among the Jews; and four in the Civil Hospital.

The following case of the disease proving fatal on its second attack after vaccination is remarkable.

Lieutenant Roque, when admitted into the Hôpital du Dey, presented distinct traces not only of vaccination on his arm, but of a previous attack of variola on most parts of the face and body. He had been a pupil of the Ecole Militaire at Paris, into which, it was well known, no one who has not been vaccinated can be received. The disease, variola, with which he was affected at his admission into the hospital, speedily assumed a malignant character, and it proved fatal in the course of a few days.

M. *Guyon* adds, that cases of small-pox occurring twice in the same individual are not very unfrequent, and reports the following interesting example from his experience.

The late Baroness *Tascher* used to mention, that among the officers of the garrison in the island of Martinique,* who were in the habit of visiting at her father's house, there was one who, being very much disfigured by the marks of the small-pox, was good-humouredly bantered by his messmates that he was surely proof against the return of the enemy. During an epidemic prevalence of the disease he was, however, again seized with it, and he died of its effects.

---

* The arrival of a slave ship in any of the West India islands used to be very frequently followed by the breaking out of numerous cases of small-pox.

Tetanus—the spontaneous as well as the traumatic form—prevails sometimes almost as an epidemic. Three cases of the spontaneous disease occurred at Oran in the beginning of April, when the heat suddenly became very great. They were all treated with general and local bleeding, cupping along the spine, internal use of large doses of opium, and hot baths: two proved fatal.

In the following month, three cases of traumatic tetanus occurred: in one of these, it followed upon the insertion of a seton in the neck.

It is well worthy of notice here that the disease was *epizootic*, at the same time, among the horses and mules of the garrison. One of our veterinary surgeons had seen nine of these animals affected with tetanus: all of them died.

At Bona, four cases of spontaneous tetanus occurred during the first three months of the year—one only of the patients survived.

M. *Guyon* is of opinion that the sudden transitions of temperature are among the most powerful causes of the disease. It is to this influence that we may probably ascribe the great number of cases, which occurred among the troops during the expedition to Constantine in 1836, and our subsequent retreat to Bona. The majority of those who suffered amputation died from tetanus supervening.

But a much larger proportion of the tetanic patients had suffered no wound at all: the disease was of spontaneous origin, and in them, it was doubtless attributable to the great change of climate from the severe cold which we had experienced under the walls of Constantine, to the high heat when we returned to Bona.

M. *Guyon* accounts for the frequency of the disease among the negroes, more especially among their infants, in the West Indies, by the rapid and great variations of temperature to which they are exposed from being badly lodged and clothed.

The custom of the natives of hot climates anointing their bodies with some unctuous substance has no doubt the effect of rendering them less sensitive to the injurious influence of sudden transitions from heat to cold.

Among the soldiers who were attacked with tetanus, during and after the expedition to Constantine, there were two in whom the disease did not manifest itself till nearly two months afterwards. In both cases too the patients were, at the date of their seizure, far removed from the place where, so to speak, they had caught the germ of the disease. One had been admitted into the hospital of the Dey at Algiers with a *gastro-bronchite*; he was suddenly seized with tetanus and died in twenty-four hours. The other poor fellow had suffered amputation of both legs at Toulon, in consequence of mortification induced by the severe cold during the expedition; and he died on the following day, the tetanic symptoms having set in about twelve hours after the operation.*

Diarrhœa, dysentery, and bronchitic affections are of frequent and fatal occurrence in our possessions on the African Coast, more especially at Oran and Constantine—these two places being more exposed, and therefore being more subject to rapid variations of climate.—*Gazette Medicale.*

---

* M. *Guyon* remarks that in the greater number of the cases where tetanus had supervened after amputation and proved fatal, the operation had been performed for gangrene of the limbs induced by cold, and not for severe gun-shot wounds.

ON A PECULIAR TREMOR OF THE FINGERS IN WRITING.

The following extract is taken from a recent Number of one of the German Journals. The complaint of which it treats is rare, and has not been described in any systematic work on medicine that we know. It consists in a tremor or involuntary shaking of the fingers of the right hand, whenever the patient takes hold of a pen or pencil for the purpose of writing or drawing. What is very strange is that some patients can mend a pen, shave themselves, or play on a musical instrument without difficulty or any unsteadiness of their hand; but no sooner do they touch the writing paper with a pen, than they are immediately seized with a trembling of the fingers, so that perhaps they cannot trace a single legible word. When they cease to write the trembling ceases.

In *Kopp's* patient, the trembling of the thumb and fore-finger was accompanied with a most unpleasant and almost painful sensation in the affected parts, which gradually became more distressing if the patient persisted in attempting to write, and ultimately forced him to lay the pen down. This sensation was often experienced in the palm of the affected hand, even when he was not writing. *Gierl* mentions that his patient experienced on any attempt to use his pen rapid contractions of the thumb, fore and middle fingers, and a peculiar feeling of compression or constriction, as if a metallic plate was fixed around the wrist. If he continued writing, the tremor of the flexor and extensor muscles extended along the whole arm up to the axilla; and this was so decided that it was manifest to the eye. At the same time, he complained of a feeling of pressure on the outer side of the arm, at the place where the deltoid muscle is inserted into the humerus; the other muscles remained in repose, unless indeed the patient still persisted in attempting to write. If this was the case, a feeling of faintishness and of general malaise came on, and the body was bathed in a profuse perspiration. Whenever the pen was laid down, all the uneasiness at once vanished. This patient never experienced the slightest difficulty either in lifting the heaviest weights, or in performing the most delicate mechanical operations.

This trembling of the fingers usually comes on very gradually and almost imperceptibly. At first, the patient experiences only a very slight inconvenience after writing long. By degrees it increases, so that he is obliged often to leave off in the middle of a page; and, in spite of all his efforts, he cannot go on. The complaint seems to be quite local, the general health being usually quite good all the time. Strong mental emotions, the use of spirituous drinks, seminal emissions, &c. seem to aggravate it—in short, whatever renders the system more irritable and sensitive is sure to increase the local annoyance.

It is not easy to suggest any remedy for this troublesome affection. Some patients have found advantage from wrapping something round the pen, so as to make it more bulky; others from fixing it to the fore-finger by means of a metallic ring, and others again by applying along the inner side of the hand a piece of wood, so as to prevent the fingers from being drawn in towards the palm. A certain relief is sometimes experienced by placing the pen between the fore and middle fingers, or between the middle and ring fingers.—*Gazette Medicale.*

Remarks.—We have frequently experienced something like this spasmodic trembling of the fingers during writing. In our own case, it has never amounted to an actual tremor of the muscles, but has been limited to an annoying sensitiveness at the points of the thumb and forefinger, and to a sense of uneasiness and constriction at the metacarpal joint of the former. We are not aware of any particular cause which has tended to bring it on. When once present, the circumstance of the attention being directed to the part, has always the effect of aggravating the annoyance, so that the only plan to get rid of it is to cease writing at the time, and occupy the mind with something to divert the attention.

Hunter, or some other celebrated man, remarked that, by having his attention directed for a length of time to any part of his body, he could actually induce a painful feeling in that part.

The remark is quite true; and our own experience at this very moment illustrates its truth. For already, at the present moment, have we begun to feel the old annoying tenderness in the point of our writing thumb, and the wrist and joint of the thumb are beginning to be excessively weary, although we have not held the pen long.*

Whoever has seen much of nervous diseases, well knows the importance of diverting or withdrawing the attention of the invalid from the seat of his or her distress.

DISCUSSION RESPECTING THE PHRENOLOGICAL ORGAN OF LANGUAGE.

M. *Bouillaud*, at a recent sitting of the Royal Academy of Medicine, introduced the subject of the seat or locality of the Phrenological Organ of Language, and narrated several cases in confirmation of *Gall* and *Spurzheim's* opinion, that it is placed in that portion of the anterior lobes which rests on the roof of the orbits.

In a previous memoir, which M. *Bouillaud* communicated nearly 15 years ago, he had collected the details of 64 cases, to shew that this organ is seated in the anterior lobes of the cerebrum, as first announced by Gall and confirmed by the observations of Spurzheim. On the present occasion, he added the reports of thirteen other cases, which have come under his notice, and all of which, he thinks, tend to prove the correctness of the phrenological doctrine. He admits that several instances, apparently opposed to this doctrine, have been published by MM. *Cruveilhier*, *Andral*, *Lallemand*, and others; but he insists that the details of these cases have been always unsatisfactory, and never sufficiently complete for the purposes of an absolute decision.

M. *Rochoux* was the first to reply to the observations of M. *Bouillaud*.

"Numerous facts," said he, "have abundantly proved that the faculty or power of speech has remained intact, when the anterior lobes of the brain have been seriously injured or diseased; and, on the other hand, that this faculty has been lost, when no discoverable lesion of these parts has been afterwards found. I am ready to admit that a number of cases may be adduced, which seem at first sight to be directly favourable to M. *Bouillaud's* conclusions; but then there are a great number of exceptional cases, which are quite opposed to them; and we must ever bear in mind that one absolutely authentic negative case is sufficient to upset the authority of a hundred seemingly affirmative cases. In that form of paralysis, which occurs in the insane, the loss, or at least, a lesion of the speech is usually one of the earliest symptoms. It is especially on the muscles of the tongue that the paralysis is at first directed; and yet in such cases we have no reason to believe that the anterior lobes are more affected than the other parts of the brain;† as the morbid change seems rather to involve the whole surface of the organ."

---

* A partial relief is obtained by holding the pen between the forefinger and thumb, and thus removing its pressure entirely from the tip of the latter.

† This objection is certainly not a valid one, and, when examined attentively, will be found to arise from a mistaken view of the subject. The phrenological

M. *Cruveilhier* followed M. *Rochoux*. He maintained that lesions of speech are not more necessarily or more frequently connected with injuries of one than of any other part of the brain; and that they are as common after injuries and diseases of the posterior as of the anterior lobes.

He repeated the assertion of M. *Rochoux*, that this faculty may be lost, although the anterior lobes are intact; and again, that these lobes may be deeply diseased, the faculty remaining entire.

" It is quite right, continued he, " that we should remember that there are three distinct elements, so to speak, involved in the phrenological faculty of language:—1, there is the memory or recollection of things; 2, there is the memory of words; and 3, lastly, there is the power of articulating sounds, or, in other words, of speech.

When the memory of things is impaired—which often happens after external injuries of the head, malignant fevers, &c.—the patient is usually in a state of imbecility, all the intellectual faculties being more or less stupefied or perverted: this is more frequent than the isolated loss of the memory of words. Words are most intimately, or rather necessarily associated with ideas. We can scarcely have an idea without having some corresponding sign or symbol of it; but as this union or association is altogether conventional, it may not exist; and thus the outward symbol may be lost, or awanting to the idea. . . . . Again, the memory of ideas and of words may be preserved, while the movements of the tongue requisite for speech, as well as for taste and deglutition, may be lost.

The patient may comprehend the questions put to him; he may remember what he has seen and heard; but perhaps he cannot articulate a syllable. Every medical man is acquainted with such cases; in one, which recently occurred in my practice, a woman had quite lost the power of articulating the name of her husband, although she retained a perfect recollection not only of things, but also of all other words.

As to the seat or locality of the cerebral lesion in such cases, I admit that it is frequently in the anterior cerebral lobes; but then this coincidence is by no means uniform and constant, as is alleged by M. *Bouillaud*. I could adduce numerous cases of lesion of these lobes, in which there was no decided affection of the speech, As to the cases in which the anterior lobes have been found deeply disorganised, or even altogether wanting, several have occurred in my practice; but M. *Bouillaud* will perhaps say that such cases are by no means so conclusive as at first sight they may appear to be, since the morbid change was limited to one hemisphere of the brain. If he insists upon the force of this objection, then we must avail ourselves of it in reference to the cases which M. *Bouillaud* himself has reported in illustration of his views, where a lesion of one only of the anterior lobes was accompanied with a lesion of the alleged function. I have related in my Pathological Anatomy the case of an idiot, in whom both anterior lobes of the brain were wanting, and who yet exhibited no alteration in the faculty of language.*

---

faculty of language is certainly not the same as the faculty of speech or articulation. One is, in truth, the memory of words; the other is the mere power of expressing or enouncing them.

The faculty of language may be perfect, although the speech may be more or less injured; just in the same manner as a musical performer's talents may remain perfect, although they can no longer be displayed, in consequence of some injury to his instrument.

* There is surely self-contradiction here. Does an idiot ever possess a correct memory of things and of words, as well as the power of articulation—the three elements which M. Cruveilhier himself admits to be comprised in the faculty of language?

I could easily prove that almost every cerebral lesion, of whatever part of the organ, may induce an alteration in the faculty of speech. Such an alteration is, it is well known, one of the earliest signs or symptoms of hemiplegia.

In a case of this sort recently under my care, where the speech was entirely lost, but the intellect remained clear and unaffected, the *tuber annulare* only was found, upon dissection, to be diseased, the anterior lobe being perfectly sound. (Does not this very case militate against M. *Cruveilhier's* and in favour of M. *Bouillaud's* views? The memory of sounds and words remained, and the anterior lobes were healthy; the power of speech only was gone, and the *tuber annulare* situated above the origin of the hypoglossal nerves was diseased.)"

In conclusion, M. *Cruveillier* infers:—

1. That it has not been shown that the faculty of language has a special seat in any particular part of the cerebral mass, and still less that the seat is in the anterior lobes.
2. That every deep and serious morbid change of the brain, whatever be the part affected, is usually accompanied with some lesion of speech.
3. That the plurality of cerebral organs cannot be demonstrated.

M. *Blandin* followed; he related the following case in confirmation of the phrenological doctrine.

A child received a musket-ball in the orbit; after destroying the eye it traversed the exterior orbitar plate, and made its escape just in front of the ear. This child, whom I saw at the Hôtel Dieu several weeks after the accident had lost all power of articulation. During its recovery, it was necessary to teach and accustom it to pronounce words. When it left the hospital, it was able to articulate its own name, and a few other words. Now in this case is it not highly probable that the superior orbitar plate was fractured, and that an inflammatory process had extended to the point of the anterior lobe which rests upon it?

As to the objected cases, in which the lesion of other parts of the brain seemed to occasion a loss or some disturbance of speech, they prove nothing in my opinion against the opinion of M. *Bouillaud;* for the corpus striatum and the thalami optici, for example, contribute by their irradiations to the formation of the anterior lobes; and the same may perhaps be said of the fibres of the upper part of the medulla spinalis, which are in truth the primary roots of these parts.

On the other hand, even if it can be shown that in some cases, where there has been disease of the anterior lobes, the speech has not suffered, it may possibly be that the immediate seat *du principe coordinateur* was not involved in the lesion. M. *Bouillaud* has not affirmed that the whole of the anterior lobe presides over the faculty of language; a small portion of it only being, according to the phrenological views, the seat of this power.

M. *Martin Solon* adduced the following cases from his own practice in confirmation of the same doctrine.

1. A girl had been for a length of time affected with slight impediment in her speech; gradually she lost the power of uttering even a syllable, and every movement of the tongue was lost. Symptoms of contraction and spasm came on, and she died. On dissection, besides the usual traces of chronic meningitis, several hydatids were found in the medullary substance of the anterior cerebral lobes.
2. In another case, whose progress and general character had been very similar to those in the preceding one, there was found on dissection a well marked softening or *ramollissement* of the anterior lobes.
3. A young girl lost her speech after a severe attack of fever. When all the active symptoms had disappeared, frictions over the forehead with an ammoniated pommade were employed and the speech gradually returned. Similar success attended the use of the same means, in a case where the loss of speech followed a suppression of the catamenia.

M. *Gerdy* expressed himself unsatisfied with such cases as those adduced by the preceding speaker.

One single well-authenticated case of decided lesion of the anterior lobes, in which the speech was unaffected, is quite sufficient he thought to overthrow the phrenological doctrine. Now many more than one such case may be adduced. Thus, in the remarkable instance reported by M. *Andral*, of a youth who suddenly lost his speech, sight, and intellect, all the symptoms disappeared after a certain time; the speech returned, and also the intellect and vision. Subsequently this youth died—the amendment having however continued to the last,—and on dissection the right anterior lobe of the brain was found to be excessively softened. M. *Bouillaud* himself is candid enough to acknowledge that it is a very curious instance, and not easily explicable. Many other such cases are to be found in various pathological records.

M. *Ferrus*, one of the physicians of the Bicetre Hospital, replied to the observations of M. *Gerdy*. He was quite willing to admit that, while avowing his belief in the truth of the general principles of phrenology, he did not give his assent to every doctrine inculcated by its professors. He thought that it required many restrictions, and stood in need of not a few modifications; but in his opinion it had already thrown too valuable a light upon the functions of the brain to merit such reproaches as had been used by MM. *Cruveilhier*, *Gerdy*, *Rochoux*, *&c. &c.* He had satisfied himself by numerous researches that the faculty of language is really seated, or, in other words, has its material organ in the convolutions of the anterior lobes. I have, says he, over and over again observed that in those persons, who are gifted with a striking memory of words and an aptitude for the acquisition of languages, the eyes are usually prominent and full, in consequence of the great development of the inferior portion of the anterior cerebral lobes. The lower part of the forehead too is usually projecting in such persons.

My pathological observations have led to a similar result; and they are certainly not at all in accordance with those of M. *Rochoux*. I have, for example, repeatedly observed that, in the majority of cases where the speech had become affected after the delirium of insanity, the anterior and inferior convolutions of the brain exhibited striking alterations, either as to the consistence of their cineritious matter, or in the relations between it and its investing membranes, or in the more deeply-seated medullary substance. Three days ago I examined the body of an insane, almost idiotic, patient, who had become paralytic: for a length of time his speech had been confused, and his condition presented no chance of amendment. More lately his symptoms had become more acute and violent. The excessively congested state of the blood-vessels of the meninges and of the substance of the brain accounted for this aggravation; while the unusually strong adherence of the pia mater to the special convolutions—designated by *Gall* as the organ of language—afforded a rational explanation of the loss of speech in this case.

M. *Ferrus* adduced two or three other similar examples in confirmation of the phrenological doctrine on this subject. He then alluded to the cases reported by *Andral* and others, which appear to be conflicting with these; and suggested that most of them are far from being conclusive, seeing that in by far the larger majority one organ only of the faculty has been injured, its fellow in the other hemisphere remaining the while almost or altogether intact. But even admitting that both organs have been found seriously altered, without the faculty being deeply disturbed, such cases by no means afford so decisive an argument against M. *Bouillaud's* views as some of my learned colleagues appear to imagine. Every pathologist knows how frequently different parts and viscera are found after death almost totally disorganised, which had given out during life no very decided symptoms of disturbance or disease. If this be true of the brain *en masse*, and of other organs, why may it not be equally so of parts of the brain?

M. *Bouillaud* closed the discussion—which had continued during three *seances* of the Academy—by replying to the various arguments and facts which had been adduced by his opponents.

Certainly we must acknowledge that the phrenological doctrine has on the whole very successfully resisted the attacks of its adversaries during this rather protracted ordeal, and that not a little merit is due to M. *Bouillaud* for his manly and able defence of his positions. Even M. *Cruveilhier* admitted that he did not combat *à priori* the localization of the faculties of the mind; moreover, that he willingly acknowledged the utility of phrenology, and the services which it had already conferred; " but," continued he, " I have not yet heard sufficient reasons to place the organ of language in one part of the brain to the exclusion of other parts.—*Gazette Medicale.*

PROSECUTION OF A PATIENT BY HER DOCTOR IN FRANCE.

The following curious case affecting *doctors* was recently decided by the Court of Cassation, the highest judicial tribunal, we believe, in France. It appears that Professor *Mojon* of Geneva had in 1833 engaged to give his professional services to the *Baroness Feucheres* and her household, during his entire life, on the express condition that she agreed to assure *à perpetuité* to him, his children, and their descendants in a direct line, an annual sum of 10,000 francs—with the permission to her of at any time annulling it by a payment of 200,000 francs at once.

M. *Mojon* had in consequence been induced to quit Geneva, and to take up his residence at Paris. The parties continued to fulfil their mutual engagements up to 1837, at which period the *Baroness*, without assigning any reasons, thought proper to *break* with the Doctor.

He cited her forthwith before the *Tribunal de Premiere Instance*, who at once decided in his favour. The Baroness thereupon appealed to the *Cour Royale de Paris* against this judgement; but again she failed; not only the judgment of the lower court being confirmed, but all expenses being allowed to Dr. M.

The lady however was resolved to try the chance of law once more. So she carried the case before the highest tribunal, in the hope of obtaining the *cassation* or reversal of the verdict. The grounds of this appeal were that the engagement, into which Dr. *Mojon* had entered, involved a violation of the 1131, 1133, and 1780 articles of the civil code, in which it is expressly laid down, " it is forbidden to any one to contract an obligation by which his independence and liberty are alienated."

The Advocate General, who was employed by Dr. M. as his counsel, very ably argued that such a prohibition could not possibly be shewn to extend to such an agreement as that which had been entered into between his client and the defendant. The article 1780, which forbids any one to engage their services for life, is applicable only to workmen and domestics, and certainly not to the members of so honorable a profession as that of medicine.

Again the article 1781, which lays down the obligations of a *master* in reference to the payment of wages or salary, cannot surely be made to embrace the claims of a physician or surgeon for their professional services: for how can any one, who employs a medical man, be said to be his *master?*

For these and many other similar reasons, the appeal of the Baroness was again rejected; the contract between her and Dr. M. was confirmed; and she was condemned to pay all expenses.

We have heard that the Baroness has subsequently summoned Professor *Mojon pour lui donner les soins assidus qu'exige l'etat de sa santé.—Gazette Medicale.*

ON THE PATHOLOGY OF THE VEINS OF THE ABDOMEN.

Although frequent allusion is made, in the writings of former physicians, to the important influence of the abdominal venous system on various diseases, yet very little notice has hitherto been taken of its pathological alterations. *Bichat*, with the view of shewing that the blood itself may become diseased, has recorded in his General Anatomy a single case, where on dissection he found the vena portæ and its principal branches filled with a sanious fluid.

It is to M. *Bouillaud* that we are indebted for the first accurate information of the relation between obstructions of the *portal* system of veins and ascites. MM. *Reynaud* and *Cruveilhier* have since contributed some useful observations on this pathological question.

M. *Defresne*, a physician in Paris, is about to publish a work on the diseases of the liver and the pancreas, wherein he has examined at considerable length the morbid changes to which the abdominal veins are subject. He has communicated his observations to the *Gazette Medicale*, from whose pages we have drawn the following remarks.

The changes most frequently observed in this system of veins are the result of an inflammatory action induced on their internal tunics in consequence—at least generally—of the absorption of acrid matters from the bowels into their cavities. Hence the chief morbid appearances consist in redness, softening, rugosity of, and deposition of lymph on, the lining membrane of the affected veins.

These vessels sometimes become embossed or partially varicose. Their contents are always more or less altered, from simple coagulation of the blood to an admixture with or a total substitution for it of purulent matter. This matter is sometimes thick and creamy; at other times it is sanious and fetid. The mesenteric, the splenic, and the hepatic veins have, in different instances, been found completely obstructed from coagula within their tubes. The portion of the veins immediately below the seat of the obstruction is usually much distended and varicose. In one case, where M. *Jobert* found one of the mesenteric veins quite plugged up, the rectal veins were enormously dilated. It has with some reason been conjectured that engorgement of the spleen is often owing to obstruction of the splenic vein.

These various morbid appearances have been more frequently observed in the hepatic veins and in the branches of the vena portæ than in any other. Purulent matter has been found in these vessels, extending from the larger even to the minutest ramifications. M. *Cruveilhier* describes the appearances he noticed in one case in the following words:—"There was in the transverse fissure of the liver a purulent deposit, which surrounded the trunk of the vena portæ: from the abscess, as from a centre, numerous purulent canals proceeded out to the divisions of the vein, following the course of these vessels most exactly. The capsule of Glisson was much thickened."

The parenchymatous substance of the liver around and adjacent to the diseased veins is always more or less altered from its healthy appearances: it is usually darker coloured, softer, and more friable.

In some cases the vena portæ has been found almost, or altogether, obstructed. The manner, in which the abdominal circulation is then carried on, is described by Dr. *Dufresne* as follows:

"The first change is the dilatation of the vein immediately below or behind the point of obstruction. In proportion as the obstruction becomes more complete, the various collateral and anastomosing communications between the different branches of the portal system and the systemic system of veins become more and more enlarged. The blood of the abdominal system, which formerly returned to the heart only after having traversed the liver, passes now at once by collateral branches into the general venous system. All the mesenteric veins become enormously dilated. The capillary veins of the thorax and abdomen are in most cases also much enlarged; and this enlargement may extend even to the veins of the viscera within. The surface of the intestines and diaphragm, in particular, has sometimes presented a net-work of highly injected vessels. The intercostal, diaphragmatic, and azygos veins have been in several cases found greatly distended. These vessels will be enlarged still more, if there is any obstruction of the vena cava itself at the same time. In one case, related by Dr. *Baillie*, this venous trunk was found obliterated at the point where the hepatic veins join it. The blood of the general and of the abdominal systems had reached the heart chiefly through the two azygos veins, and the anastomoses between the lumbar and the intercostal veins.

Without dwelling longer on the pathology of the subject, let us now proceed to say something of the *causes of inflammation of the abdominal venous system.*

Severe contusions of the abdomen and loins have seemed to have occasionally given rise to it. The pressure too of tumors of any sort within the abdominal cavity has had the same effect. Probably however by far the most frequent cause is the direct absorption of acrid matters from the inner surface of the bowels. In more than one instance, the inflammation of the vena portæ, or of some of its branches, has been found co-existing with irritation or inflammation of the digestive passages. MM. *Ribes, Andral,* and *Bouillaud* have reported several cases which distinctly prove that a phlegmasia of the intestinal mucous surface may extend along the mesenteric veins of the vena portæ.

Inflammation of these veins has been observed after fatal hernia, prolapsus recti, fistula ani, cancerous and other forms of ulceration of the bowels, and in numerous cases also of typhus fever. In some examples of malignant disease, cancerous or encephaloid matter has been discovered within the diseased vessels.

It is not easy to give any accurate account of the *symptoms,* which accompany a diseased state of the veins of the abdomen. We may expect indeed that there should be a general feverishness, occasional shiverings, nausea and vomiting, perhaps diarrhœa, a clayey or an icteric colour of the skin, pain or tenderness of the abdomen, loss of appetite and great prostration of the whole system. If the disease lasts for some time, emaciation and marasmus will necessarily supervene.

The feverish symptoms sometimes assume an intermittent character; the paroxysm usually returning every day. If the patient has been subject to piles, these are always, as indeed we might expect, much aggravated—in consequence of the accumulation of blood in the mesenteric veins. In one or two cases of obstructed vena portæ, the superficial veins of the abdominal parietes have been observed unusually distended and almost varicose. In other cases, however, this appearance has not been noticed.

M. *Duplay* gives the following description of a case, where the vena cava and the right branch of the vena portæ were found on dissection to be quite obliterated.

"From each groin there proceeded a vein, the epigastric, as large as the little finger: as it mounted upwards, it was divided into a number of considerable branches, which anastomosed freely with each other, and also with their fellows on the opposite side, so that the front of the abdomen was covered with a network of vessels, from which numerous smaller ones proceeded, some passing along the intercostal spaces, and others as high as the arm-pits. Around the knee and under the skin of the legs were observed a multitude of veins, such as we frequently notice in some women during pregnancy."

The last symptom of a diseased condition of the internal abdominal veins that we shall mention is of more constant occurrence than any to which we have as yet alluded—viz. the ascites, or dropsical effusion of the abdomen, which almost always accompanies the obliteration of the vena portæ or any of its large branches.

It is to M. *Bouillaud,* as already noticed, that we owe the first precise information on this interesting subject of pathology. His memoir will be found in the *Archives Generales* for 1823.—*Gazette Medicale.*

TREATMENT OF MALIGNANT ULCERS WITH CORROSIVE SUBLIMATE EXTERNALLY.

"I have been engaged for the last fifteen years," says Dr. *Ordinaire*, "in testing the value of the corrosive sublimate as a caustic in the cure of ulcers of malignant character, and in the removal of cysts and other tumors. My mode of employing it is very simple; the ulcerated surface is covered or coated with a pinch of the sublimate in fine powder: the quantity never exceeding seven or eight grains. A piece of diachylon plaster is then laid over all. When the caustic is applied to any inward surface, as to the mouth, rectum, &c., some lint or carded wool should be placed upon it, in order to prevent it from extending to the neighbouring part.

No sooner is the sublimate applied to a wound than an intense burning pain is caused; this usually lasts for several hours, and is usually attended with great tumefaction of the surrounding parts. The use of emollients, and of leeches if necessary, will however speedily relieve these symptoms.

In cases of superficial cancerous ulcerations, one application of the caustic is sometimes sufficient; but generally it is necessary to repeat it. The eschar however produced by the first must have either fallen off, or been removed by scissors or the knife, before the sublimate is re-applied. If, after the second or third application, the granulations are fungous or otherwise unhealthy, we should not hesitate to destroy them by again covering them with caustic powder. The healing of the sore left by the falling off of the eschar is generally remarkably rapid."

The following cases, extracted from a multitude recorded in his notes, are given by the author in illustration of the preceding remarks.

Case 1.—A woman, 50 years of age, consulted Dr. *Ordinaire* for an ulcerated fungoid tumor situated in the mouth upon the right maxillary bone. It had existed for upwards of a twelvemonth. The original tumor had been excised, and the surface been cauterized with a hot iron; and, as the disease returned, she was advised to submit to the removal of a portion of the superior maxilla.

The fungus, at the time that Dr. *Ordinaire* first saw the patient, was of the size of a kidney-bean, and occupied the space of the canine and lesser molar teeth,—which had been extracted—extending upwards along the protuberance of the upper jaw. The fungus frequently bled, and was the seat of severe lancinating pains.

Dr. O. after removing all the diseased parts by means of scissors, covered the wound with the corrosive sublimate powder; this he repeated several times until its surface was invested with a thick white crust or layer. Some carded cotton was then laid upon it, in order that the opposite surfaces of the cheek might be protected from the caustic. On the next day, without waiting for the falling off of the eschar, it was removed by means of small scissors, and the sublimate was re-applied. After the third application, the lancinating pains in the cheek had very sensibly diminished in severity. Dr. O. adds, "I thus followed the fingers even into the maxillary sinus, (!) and I obtained a perfect cure after the sixth application."

Two years afterwards, this patient again consulted Dr. *Ordinaire* for a fungous tumor situated below the right clavicle, and which, within a very short time, had attained the size of a filbert. One pinch of the sublimate powder sufficed to destroy it completely.

Case 2.—A gentleman, 74 years of age, had a cancerous ulcer in his lower lip, which had during two years resisted frequent cauterizations practised by an empiric, whom he had consulted.

He had been advised to allow a portion of the lip to be excised, when he accidentally heard that Dr. O.—to use the Doctor's own words—possessed a means of curing cancer. The sublimate was freely applied over the ulcerated surface, so that it was coated with a tolerably thick layer of the powder: it was then covered with simple dressing.

The pain was very severe at the time; and great swelling of the entire lip supervened. This however subsided in 24 hours, under the use of emollient cataplasms. On the fourth day a thick eschar was detached, and at the end of the third week the cicatrization of the wound was complete. The caustic had not been applied a second time.

Case 3.—A man, aged 32 years, had for many years been subject to a *prolapsus recti.* For some time before he consulted Dr. O. the gut had not been replaced; and the protruded portion had a most unhealthy appearance. It was swollen and furrowed with ulcerated lines, from which oozed a sanious discharge. The patient experienced severe lancinating pains in the part. "Recognising," says Dr. O. "a cancerous degeneration, I at once removed with the knife the whole of the tumor which protruded beyond the margin of the anus, and, being assured in my own mind that there were some unhealthy excrescences within the gut, I determined to destroy them with the sublimate. I prepared a tampon or bougie of lint, smeared it well with lard, and then powdered it over with the sublimate: this I introduced to two inches depth into the rectum. The patient immediately experienced most intense pain; and it was with great difficulty that Dr. O. persuaded him to bear the bougie for a few hours. On the fourth day thick eschars separated by the use of injections and of hip-baths; and no fresh applications of the sublimate were made, except to one or two suspicious-looking points at the margin of the anus.

Thirty-two days after the first cauterization, the patient was entirely well. For twelve years afterwards he continued to enjoy perfect health.—*Gaz. Med.*

Remarks.—We are unwilling to make any remarks on the preceding cases, further than to warn our younger readers from being too bold in the use of so severe a remedy as the one proposed, especially in cases of *actually* malignant disease. That wonderful cures however have sometimes been effected by the use of the corrosive sublimate as a caustic is known to most experienced surgeons. Dr. *Ordinaire* seems to be a regularly educated and a scientific surgeon, for we observe in a recent number of the *Gazette* he has published one or two cases of strangulated hernia, where he performed the operation of dividing the stricture, without opening the sac, with perfect success.—*Rev.*

ON THE USE OF THE STARCHED BANDAGE.

Our readers are no doubt well aware that, for some years past, the use of what has been called the *bandage amidonné*—which is nothing but a calico bandage or roller wetted in a strong solution of starch and then applied in the usual manner round a limb—has been extensively adopted on the Continent in the treatment of fractures, more especially in military practice. It is to M. *Seutin*, one of the leading surgeons of the Belgian army, that we chiefly owe its recent introduction. Whether there is any truth in its having been used by *Cheselden*—as the national pride of England, M. *Seutin* says, has thought fit to assert—we really do not know. But even though there be, there cannot be a doubt that our author deserves well of his professional brethren by his able and zealous recommendation of the practice. Already has it been extensively adopted in France and Belgium; and so highly is it thought of in Russia that all the military and naval surgeons there have been ordered to be instructed in its use and to adopt it in their practice.

M. *Seutin* has recently addressed a letter to the Royal Academy at Paris, with the view of pointing out the various surgical maladies in which he has used his *bandage amidonné* with useful effects. He instances false articulations, section of tendons, sprains and luxations, white-swellings and other tumors, spontaneous dislocations, necrosis and caries of bones, and various affections of the joints. To these he adds herniæ in young children, varices, articular rheumatism, the tremor of stumps after amputation, and after the excision of the diseased parts in such cases as cancer of the lip, &c.

The following are the advantages enumerated by M. *Seutin* of the *bandage amidonné* in the treatment of fractures.

1. It is at the same time a removeable and an unremoveable apparatus.

2. It exerts a circular compression round the whole limb, by which a more exact apposition of the fragments is maintained than by other means.

3. It enables the patient to move about with the assistance of crutches.

4. It allows a free exit to the purulent discharges in cases of compound fractures.

5. It is light and not cumbersome, and applies itself closely to the limb.

6. It is easily cut and taken off, when its removal is necessary.

7. Its materials are cheap and are to be had every where: hence it is exceedingly well adapted for military service.

8. By merely moistening it and squeezing it between the fingers, it may be adjusted, after it has been once applied, at any particular point where it may happen to lie unsmoothly and cause undue constriction.

9. In some cases where it is desirable to have it as soft and pliant as possible it will be useful not to moisten with the starch mucilage the internal surface of the bandage.

10. It permits any position of the limb, either of flexion or of extension, and also the movements of the joints towards the close of the treatment, for the purpose of preventing anchylosis.—*Gazette Medicale.*

REMARKS ON M. GUERIN'S RECENT PROPOSAL.

M. *Bouvier,* who is a well-known *Orthopædist* of the French Metropolis, has addressed some remarks on the rather strange proposal which his rival M. *Guerin* has recently made to divide certain muscles of the back, for the cure of lateral deviations of the spine. M. B. denies that the contraction of the spinal muscles plays the chief part in the production of these deformities, as alleged by M. Guerin. His dissent rests on the following grounds:

1. When an attempt is made in the living subject to *redress* a lateral curvature of the spine, we do not observe that along the line of the vertebral furrows the muscular cords project on the concave side; the only appearance of tension, which is observed either on the concave or on the convex side of the curvature, arises from the merely occasional and temporary contractions of the muscles. When the deformity resists all attempts at rectification *(redressement)*—a case in which we might quite expect that the muscular cords should be still more prominent if the resistance was really owing to them—we usually perceive only a general tension of both sides of the spine, which becomes greater or less according as the muscles are in a state of contraction or of relaxation.

2. The curvature of the spine in lateral deviations is the result not of a real

movement of the vertebræ on their axes, but of a peculiar *deformation*, or irregularity of formation of these bones, which takes place from the commencement of their pathological curvature. Until this *deformation* has occurred, there is no deviation of the spine, strictly speaking; but only a temporary flexure which may pass away of itself, and which becomes a permanent curvature only when the osseous morbid change has taken place.

3. Curvatures of the spine continue after death, and even when the muscles of the back have been removed: the numerous skeletons of deformed persons in different museums abundantly prove the truth of this remark.

M. *Bouvier* concludes from his enquiries that the majority of lateral deviations of the spine are not produced by any muscular contraction, such as we observe to be the case in wry-neck, club-foot, and permanent flexures of any of the joints; and therefore that the sub-cutaneous section of the muscles or tendons—so effectual a remedy against these deformities—is not applicable to the treatment of such deviations.—*Bulletin de l'Academie.*

Remarks.—When we first noticed M. *Guerin's* proposal in a recent number of this Review, we expressed our surprise that any educated surgeon could have dreamed of such an expedient for the relief of lateral curvature of the spine. It seemed to us to be the mere offspring of a most foolish love of notoriety, and that its adoption could never have been seriously contemplated by any one. It would seem, however, that M. *Guerin* has repeatedly performed the operation of dividing some of the muscles of the back, and, he says, with marked success. We should be very unwilling to permit him to experiment upon any of our patients.—*Rev.*

ON THE RELATIVE FREQUENCY OF HERNIÆ AT DIFFERENT AGES, &C.

M. *Malgaigne* has communicated to the Royal Academy the following details of his enquiries upon this subject. They are drawn from three series of observations, collected at the central Bureau of hospitals at Paris during the close of 1835, and during the two succeeding years.

The first series embraces 410 cases which were noticed in persons who applied at the central Bureau for trusses. Of this number, 335 were males and 75 were females.

The second series exhibits a total of 2,767 cases;—of which 2,203 occurred in males, and 564 in females.

The third series comprises 2,373 cases;—1,884 of which occurred in males, and 489 in females.

From these data we may reasonably conclude that ruptures are four times as frequent in the one *sex* as in the other.

Now with respect to the influence of *age* as a predisposing cause of hernia.

Among infants under twelve months of age herniæ are more frequent than during the second year of life. During the following three years the tendency becomes very strikingly less and less.

In considering the period of life between five and twelve years of age, it would seem that hernia is of more frequent occurrence during the latter than during the former half of this time. Hence we may infer that there is a *recrudescence* at about the ninth year or so. This *recrudescence*, or increase of predisposition, is still more marked during the next eight years—between thirteen and twenty. It is however to be particularly noticed that the increase bears exclusively on the male sex.

From the 20th to the 28th year, the number of herniary patients very sensibly increases, whether we take them in the mass, or distinguish them according to their sex.

Among men there is an increase of at least one fourth; and among women the increase is nearly one half. The rapid increase among males from the 13th to the 20th year of life may be attributed, in part at least, to the laborious occupations in which they are engaged. The same cause operates no doubt during the next eight years on both sexes; to which is now to be added the influence of marriage, and also of pregnancy.

From the 28th to the 29th year of life there is a notable augmentation in the disposition to herniæ—stronger indeed among women than among men; and indicative of some secret influence acting on the constitution, which becomes more decided in after-life.

The decennial epoch from 30 to 40 years of age may be divided into two halves, during the first of which the tendency to ruptures seems to remain nearly stationary, and during the second becomes considerably and suddenly greater—the average number for the series of the year 1836, being 29 in the first five years and 58 in the next five; and for the series of the year 1837, 26 for the first five years and 46 for the next five; shewing thus an increase of nearly a double.

During the next decenniad, from the 40th to the 50th year, the average decreases;—viz, from 58 to 54 for the series of cases for 1836, and from 46 to 42 for that of the following year. But here there is a marked difference in the relative frequency of herniæ according to the sexes. In the earlier years of life, the proportion of females affected with rupture was, as we have stated above, not more than a fourth of the number of males; but about the age of forty, this proportion rises considerably, some new cause of predisposition seeming to be operative about this period of life.

If, for example, we take the two preceding periods—from 30 to 35 years, and from 35 to 40 years—the proportion was found to be thus:

54 females and 231 males,
100 females and 418 males,

—the proportion being in either case short of a *fourth*. But during the next ten years, from 40 to 50 years, the number of women affected with herniæ was 242, while that of men was 722—giving a proportion of one *third*.

From 50 to 60 years of age, the general number of herniary patients increases, and the annual average becomes again equal to, or even above, what it was from the 35th to the 40th year. Moreover, the relation between the two sexes re-appears very nearly as during this latter period of life. From this we may infer that there is an increase of herniæ among men, and a decrease among women, during the period between the 40th and 50th year.*

During the seventh decenniad—from the 60th to the 70th year—the general number decreases; and as that of women seems to remain about the same, the proportion re-becomes nearly one *third*.

During the next decenniad, the number of herniæ in men was found to have decreased by not quite a half, while in women it had fallen by at least two-thirds. This difference seems to indicate, that at this epoch of life the mortality, which is evidently higher in herniary than in other persons, would be still greater from this cause in women than in men. If we follow the decrease of the herniary population, year after year, we no longer observe at this period—the eighth decenniad—as we had observed in the preceding ones, new cases of the disease to fill up the blanks caused by death. Thus, in the total of 3,140 cases comprised in the two series, we find 48 in individuals of seventy years of age, only 22 of seventy-five years, six of eighty, five of eighty-one, three of eighty-two, and one of eighty-three years.

---

* There is surely a mistake here; as we have been told in the preceding paragraph that there is a very marked increase of the complaint among women during the fifth decenniad of life. The decrease takes place in the next decenniad—viz. from the 50th to the 60th year, and not from the 40th to the 50th year.—(*Rev.*)

M. *Malgaigne* has lastly endeavoured to ascertain the proportional number of herniary persons to the entire population of France. According to his enquiries, there are about two in every 41 of the inhabitants. He has also tried to determine the relative frequency of the complaint in the different provinces: but his data on this topic are still very imperfect.

ON COMPLETE ABSENCE OF THE VAGINA.

The following case of this malformation recently occurred in the practice of M. *Manoury* of Chartres.

The patient was a girl, 17 years of age, who had never menstruated, but in whom, for a considerable time past, symptoms indicative of the menstrual secretion had been observed, returning at an interval of a month or so. Her general health had become much deteriorated, and various remedies had been fruitlessly tried, before the actual condition of the patient was ascertained.

On examining the external organs of generation, it was discovered that not only was there no external opening of the vagina, but that there was no discoverable trace of this canal existing between the bladder and the rectum.

A trocar was introduced for a short depth in the usual direction of the vagina, when a fibrous cul-de-sac was reached: this was traversed, and subsequently dilated by means of elastic-gum sounds. It is next stated, that 'the menstrual secretion *put prendre* its natural exit,'—(but whether it was really ever discharged is not mentioned. *Rev.*)—and that the cervix uteri could be felt with the finger.

Symptoms, however, of severe constitutional disturbance soon supervened; and the patient at length sunk under the effects of a constantly-recurring feverishness.

Unfortunately an examination of the body was not permitted.

M. *Capuron*, one of the most distinguished obstetrical writers in France, who reported to the Academy the preceding case, expressed his opinion that, where it is ascertained that the vagina is actually wanting—not merely imperforate—it is imprudent to have recourse to any operation, under the risk of compromising the life of the patient.

M. *Moreau* stated, that he was not prepared to assent to the opinion expressed by M. *Capuron*, viz. that no surgical operation should ever be attempted in such a case as the one under consideration.

It is quite true that *De Haen*, *Dupuytren*, *Dubois*, and others have failed, and that even fatal consequences have ensued from the bladder having been punctured in the attempt; but then, on the other hand, it is to be remembered that other surgeons, as M. *Amussat*, and M. *Wuillaume*, have succeeded. It is also to be considered that the deformity, if unrelieved, must inevitably prove fatal. If, therefore, the operation should succeed but once in a hundred times, we should not entirely abandon it.

M. *Velpeau* remarked, that the question under discussion is necessarily a complex one, as the lesions or irregularities of the vagina, which may occasion the complete occlusion of its passage, and the retention therefore of the menstrual secretion, may be referred to three different classes:—1. Where there is a congenital and total absence of the canal;—2. Where this occlusion occurs only at puberty or afterwards, in consequence of inflammation, &c.—3. The occlusion may exist in pregnant women, and may be the cause of serious impediment to the delivery of the child.

All will readily agree that, in young girls ander the age of puberty and in women advanced in life, no operation should ever be thought of; but, on the other hand, it is equally obvious that the case is very different when pregnancy exists, or when the catamenia are retained. Under the first of these conditions, no one would hesitate about dividing the obstacle; and many surgeons would assuredly at once adopt the same practice, when the catamenia only were retained.

M. *Capuron* admitted, as well as M. *Velpeau*, that an operation should be performed in those cases where there is a simple imperforation of the vagina; but that, if this canal be not only imperforate but wanting, and its place be occupied with a cellulo-fibrous cylinder, the propriety of an operation is more than doubtful.

Whatever be the opinion of surgeons on this subject, it should ever be kept in mind that the risk of the operation, where the vagina is really wanting, is very great; and therefore that all the circumstances of each individual case should be well considered before it is resorted to.—*Bulletin de l'Academie.*

ON THE AMPUTATION OF THE PENIS.

Dr. *Barthelemy*, surgeon of the Hospital Gros Caillou at Paris, published in 1829 a memoir in which he recommends that an elastic gum catheter should be introduced along the urethra, and made to project well against the posterior parietes of the bladder, before the ablation of the penis is performed.

M. *Velpeau* and others had at first objected to this proposal that there was a risk of the end of the cut bougie slipping into the bladder. So far however from this being the case, it will rather tend to project or spring from the divided canal, provided its end has been pressed well against the posterior wall of the bladder.

It has been said by some writers, that there is no occasion to introduce the instrument until the diseased portion of the penis has been amputated, and that a catheter may always be passed into the bladder afterwards.

This is certainly not quite true. M. *Beclard*, in one case where he amputated the penis, could not succeed in introducing the catheter, and he was actually obliged to puncture the bladder. In another case, under the care of M. *Giselle*, the patient died from infiltration of the urine. Whoever has seen many cases of this operation will acknowledge that he has seen great difficulty and much time lost in finding the divided orifice of the urethra, and in introducing a catheter along it, after the penis has been removed.

M. *Barthelemy* particularly calls the attention of the surgeon to the advantage of using a catheter that is sufficiently pliant, and of making it arch or project well against the posterior parietes of the bladder.

The assistant, standing on the opposite side of the patient, should press with his left hand the parts well against the instrument, keeping his fore-finger above and his thumb below the penis; while with his right one he holds firm its projecting end. The surgeon, standing on the left side of the patient, then amputates the member with one circular stroke of a small amputating knife.* The vessels may then be secured by *torsion;* and when all is done, the extremity of the catheter is to be securely fixed to the other parts of the bandages. One very great advantage of this mode of procedure is the celerity with which the operation—one which affects most patients more perhaps than any other—is finished.

Several successful cases are narrated; but it is unnecessary to particularise these.—*Gazette Medicale.*

---

* It is not expressly stated by M. *Barthelemy* whether he divides the catheter at the same time; but, from a remark in the report of one of the appended cases, we infer that he does.

EPIDEMIC APHTHOUS INFLAMMATION OF THE MOUTH.

This epidemic prevailed very extensively in the Foundling Hospital of Brescia in Italy during the Autumn of 1837. Its development was preceded by an epidemic of purulent ophthalmia, which had scarcely subsided, before the aphthous epidemic made its appearance among the children.

Its invasion was often so rapid and unperceived, that the whole surface of the tongue and inside of the mouth were found covered with vesicles in children, who had seemed quite well only a few hours previously. The precursory sign of this eruption seemed to consist in a more or less highly reddened state of the mucous membrane. The children became restless, refused their food, and began to pine. Often, while sucking, they quitted the nipple; and then the nurse usually experienced a sensation of burning in and around it. The colour of the tongue and gums became of a darker red, or of a livid hue. Then a few white points were observed on the apex and edges of the tongue and on different parts of the lining membrane of the mouth. These white points became gradually larger, and assumed the appearance of very minute mushrooms (*champignons*), resting on a narrow solution of continuity—hence this form of the disease has acquired in France the name of *muguet* or *millet*. When the white points extend in size without becoming at all elevated, and ooze out a whitish secretion, the disease has a more strictly aphthous character.

The greater number of authors have confounded these two forms of the disease together; but, according to Dr. *Girelli*, the reporter of the present remarks, they are different both in their origin and in the mode of their development.

The pseudo-membranous secretion was in some cases so widely diffused that not only was the entire surface of the tongue and of the inside of the mouth covered with it, but it even extended down the œsophagus. Here and there the mucous membrane of the cheeks exhibited a deep red, almost black, tint, and at the same time a remarkable dryness. There was also great heat, as might be readily discovered by introducing the finger into the mouth.

The lips and the tongue became hard, dry, and parched; the infant could no longer suck; and if it did but for a moment, the nipple of the nurse became hot and painful. In the bad cases, the extremities first and then the body became cold; and, before the death, the head sometimes felt as if the finger was placed on a piece of ice. Vomiting was not an unfrequent symptom; perhaps the inflammation had extended along the œsophagus to the stomach.

The duration of the disease was very various; from two to twelve days. The mere length of the disease seemed however to have little to do with its fatality, as many of the worst cases ran their course in two or three days.

From the preceding description, we may very properly designate this epidemic malady as one of *stomatitis aphthosa*, affecting more especially the follicles of the mucous membrane of the mouth.

The number of children under Dr. *Girelli's* care was 31; of which 14 occurred in September, 8 proving fatal; 7 in October, one only proving fatal; and 10 in October, all which recovered. It is a general character of such diseases that they are more severe at the commencement than towards the decline of the epidemic.

Dr. *Girelli* had reason to believe that the disease was readily communicated to healthy infants, by applying them to the same breast at which infants, already affected with the disease, had sucked. Hence the importance of separating the healthy from the sick, and of not permitting the same nurse to suckle both.

In the *treatment* of this disease, it is the first duty to ascertain whether the aphthous eruption in the mouth is associated with an inflammatory affection of any of the internal viscera; and, if such be the case, whether the eruption be primary and idiopathic, or secondary and consecutive.

Dr. *Girelli* strongly recommends the local application to the mouth of some emollient—as almond oil, or the syrup of succory with rhubarb. Recourse was also had to an emulsion of melon seeds, to which was added tartrate of antimony in minute doses. In this manner, the tendency to gastric disturbance was obviated, and a derivation, so to speak, was directed towards the intestinal canal. If it was necessary to act directly on the mucous inflammation, an emulsion prepared from quince-seeds with cherry-laurel water fulfilled this indication very well.

Smearing the aphthous surface with rose-honey, or with a solution of borax in marsh-mallow water, was often useful. But perhaps one of the most useful and necessary of all remedies was the application of one or two leeches about the angle of the jaw. Dr. *Girelli* assures us that he has derived much more benefit from cautious local bleeding than from almost any other means. In some cases, the application of a blister to the nape of the neck was of service.

It is of the highest consequence that the child, if at the breast, should be suckled by a healthy sound nurse, and, if not at the breast, that it should be fed with light nourishing food. One nurse should never suckle more than a single child. To shew the importance of this precept, we need only mention that, in the Foundling Hospital at Brescia, the number of patients and the amount of the mortality were always proportionate to the fewness of the nurses.—*Annali Universali di Medicina.*

ON THE INFLAMMATIONS OF THE CÆCUM.

The high character of the author of the following remarks, Frederick Albers Professor of Medicine in the University of Bonn, is a guarantee for the exactitude of the observations and the soundness of the reasoning.

That the diagnosis of diseases of the cæcum is attended with no inconsiderable difficulty appears from the well known circumstance, that very often they have never been suspected to exist during the life of the patient, and have been discovered only on dissection.

In the following observations we propose to treat *first*, of acute inflammation of the cæcum; *secondly*, of inflammation of the cellular membrane which surrounds it; *thirdly*, of the inflammation of the cæcum produced by the accumulation of fæcal matters, or the presence of some foreign body in the gut; and *lastly*, of chronic inflammation of the gut.

1. *Acute Inflammation of the Cæcum.*—Most frequently it commences in the mucous membrane during the progress of dysentery and enteritis; but sometimes however it arises idiopathically, and seems to be quite independent of any other complaint.

In the latter set of cases, the inflammation is usually very rapid and intense, accompanied with the following symptoms;—a burning pungent pain in the right iliac fossa, aggravated by pressure and by intestinal evacuations, and frequently extending more or less along the line of the transverse colon. A sensation of burning heat at the anus every time that the bowels act is a common attendant symptom.

There is usually a distressing diarrhœa present: while this lasts, the pain in the iliac fossa is generally diminished. The stools are thin, often loaded with mucus, and not unfrequently bloody. As the disease abates, the mucosities become whiter and of a thicker consistence, not unlike to what are often expectorated in bronchitis. This mucous excretion has frequently been mistaken for, and described as, purulent; and hence a common error, that in this affection the stools are often mixed with matter. Every pathologist however knows well how very rare it is for inflammation of any portion of the intestinal canal to terminate by suppuration.

With respect to the pain which accompanies inflammation of the cæcum, it deserves notice that this usually extends down in the direction of the right limb, more especially when the patient walks or turns his body round in bed. Hence it is apt to be considered as of rheumatic origin; and, as the muscles covering the inflamed bowel generally sympathise with it, there may indeed be a certain degree of rheumatic suffering blended with that arising from the enteritic disease. In some cases retraction of the right testicle has been noticed; and in others symptoms of irritated kidney occur.

Duration.—Professor *Albers* has never known a case of acute inflammation of the cæcum to last longer than seven days.

Inflammation of the Cellular Substance around the Cæcum

usually commences very suddenly after exposure to cold, irregularity of diet, or taking a draught of cold liquid when the body is heated and perspiring. The pain, which attends it, is felt at first sometimes near the umbilicus, and at other times in the iliac region. When it begins around the navel, the patient usually complains of slight cutting pains, which do not differ much from ordinary colic: when in the iliac region, it is much more intense. Wherever it is situated, it gradually diffuses itself, so that soon the entire surface of the abdomen becomes exceedingly tender, as is the case in genuine peritonitis. Sometimes the pain extends round to the loins and back, and then the case may be mistaken for nephritis or psoitis. But at length it is concentrated, chiefly in the iliac fossa. When this takes place, the disease is *franchement declarée*, and probably suppuration is nearly at hand. The pain is aggravated by any movement of the body, or by the accumulation of flatulence in the bowels, &c. &c.

When the pain has lasted for some time there is always considerable tension, swelling and hardness in the right iliac region, stretching from thence in all directions, but chiefly downwards in the direction to Poupart's ligament. These phenomena are more circumscribed than in peritonitic inflammation. But it must be admitted that the two cases are sometimes not easily distinguishable. Read the following, for example:—

A child, eight years of age, was suddenly seized, after a chill, with smart fever attended with severe abdominal pain, which was seated at first in the epigastrium, and gradually extended itself to the right iliac region, and finally over the whole abdomen.

There had been diarrhœa; but this was replaced by constipation and troublesome vomiting. The case was considered as one of genuine peritonitis, and treated with bloodlettings, local and general, fomentations, mercury internally and externally, &c.

The patient died on the ninth day after the attack.

Dissection.—The whole extent of the peritoneum, intestinal as well as abdominal, was perfectly sound, with the exception of one spot of about the size of a crown-piece over the cæcum, where it was evidently inflamed and exhibited a few flocculi of coagulable lymph. On examining more minutely the parts at this region, a fluctuation was perceptible; and on making an incision there, a large cupful of purulent matter flowed out. The cellular tissue, surrounding the cæcum behind, was found greatly destroyed by suppuration, and the pus had made its way between the abdominal muscles forwards to the iliac region. These muscles were quite dissected, as it were, from the subjacent peritoneum; the cæcum also was much softened in texture, so that it was easily torn across; and its mucous surface was of an almost livid colour: no perforation, however, had taken place. All the other abdominal viscera were sound.

It will be observed that, in the case now related, there was diarrhœa at first, and that this was followed by obstinate constipation. Now such is the usual occurrence, whenever the cellular substance around the cæcum becomes inflamed.

The constipation, which often resists every remedial means that are employed, is probably owing partly to the muscular coat of the gut, which is in close proximity with the inflamed cellular tissue, becoming affected itself,—and *Abercrombie* has shewn that inflammation of the muscular tissue of a gut paralyses its functions—and partly to the mechanical effect of the swelling not only on the cæcum, but also on the colon and small bowels.

These two causes render this conspitation much more obstinate than in almost any of the ordinary forms of enteritis.

Besides this and the other symptoms already enumerated, there is usually pain and a sense of numbness down the right thigh and about the hip-joint. These symptoms may be owing to the psoas and iliacus internus muscles being peculiarly affected. The excretion of the urine is also in many cases more or less disturbed. It is probable that the right kidney sympathises from the very commencement of the malady, and that the swelling in its latter stage may press upon the ureter.

We need scarcely add, that there is always more or less feverish irritation of the constitution present. The progress of the case is indeed often very obscure and slow; the symptoms being at first inconsiderable, but often becoming on a sudden violent and most alarming. The *duration* of the disease may be said to vary from two or three weeks to several months, or even to upwards of a year.

Termination.—It is not rare to find that inflammation of the cellular substance around the cæcum terminates favourably by resolution; but certainly in the majority of cases suppuration is induced.

The pus usually finds its way into the cavity of the gut, either directly or by bursting into the appendix vermiformis. When this takes place, there is a sudden change in all the symptoms; the severe pain and the obstinately confined state of the bowels being generally followed by a complete remission of suffering, and by a greater or less degree of diarrhœa; so that the patient, and his medical attendant also if he be not on his guard, are apt to suppose that a favourable crisis has taken place. Too often, however, this is but a delusive calm; the strength of the patient becomes weaker and weaker; the stools are found to be mixed with purulent matter, and the system at length gives way.

The history of the following case affords a good illustration of the usual progress of the disease.

Case.—A man, 29 years of age, who had been previously in perfect health, was seized, during the Summer of 1833 when the influenza was prevailing, with smart abdominal pains, which returned at periodic intervals, but were not attended with fever or any gastric disturbance; diarrhœa however was present. By the use of cupping the pains abated, but they became more permanent and more fixed in the right iliac region; and at the same time a constipated state of the bowels ensued. For five days the patient was able to attend to his affairs; and then he was seized with feverish chills followed by flushes of heat. The pain became much more severe, and occasional vomitings supervened; at the same time the groin was somewhat swollen and very tender on pressure, and the urine was thick and very red. Purulent matter was observed to be mixed with the alvine dejections; all the symptoms became suddenly very alarming, the extremities being cold and the pulse scarcely perceptible; and the patient died in a state of coma.

On dissection, a large collection of pus was found behind the cæcum, stretching up to the right kidney, and down to the pelvis; the appendix vermiformis was hard and thickened. In the cæcum, at about an inch from the appendix, there was a perforation with irregular edges, through which the matter had escaped into its cavity; the right kidney was softened and very red; and the iliacus internus muscle was partially destroyed by ulcerative absorption.

In a few rare cases, the pus makes its way not only into the gut, but also outwardly through the abdominal parietes; thus an anus *contra naturam* is established. Occasionally the outward opening alone takes place. When this is the case, the symptoms are generally very severe for ten or twelve days, and then suddenly they subside, when the abscess bursts. Under all circumstances the disease must always be considered as a very dangerous one; the colliquative exhaustion that is induced by the protracted suppuration, proving in most cases fatal.

With respect to the age, at which *peri-cæcal* suppurations are most frequent, perhaps it is that of youth.

Stercoral Inflammation of the Cæcum.

The ingenious researches of Dr. *Schulze* of Berlin have shewn that the cæcum exercises an important part in the act of digestion, and that it is not without reason that this portion of the large intestines has been designated the *ventriculus secundus*. In some individuals its sacciform shape and arrangement must increase the tendency to an accumulation of fæcal matters within its cavity; more especially when there is at the same time an excess of its chief curvature, or when any irregular adhesions exist to retard the onward movement of its contents, or lastly when the ascending portion of the colon is more than unusually arched or bent. Persons who have much sedentary occupation, who live chiefly on a vegetable diet, and in whom there is a tendency to constipation, are those who are most subject to this complaint.

The fæces gradually accumulate in the cells of the cæcum, until a process at first of irritation, and subsequently of inflammation, is excited, and then all the symptoms of enteritis or of strangulated hernia are excited. Dr. *Posthuma* of Groningen has expressed his opinion that atony of the gut is the primary cause of the mischief, (*de cæci, ejusque processus vermicularis pathologiâ, Groningen* 1836), and that in consequence of this it loses the power of propelling its contents onwards, which thus accumulate more and more until at length the coats of the bowels become inflamed. In such a case, an obstinate constipation is perhaps the only symptom that is present for a great length of time, and the physician may have no grounds to suspect any local mischief until swelling or pain is felt in the right groin. The subsequent progress of the case may be understood from what we stated in the preceding section. We shall therefore give only a brief extract from the author's remarks on the appearance of the abdomen in this disease.

" The abdomen is usually tense, hard, and prominent, especially in the right flank. If we attentively examine this part, we shall generally find that it is the seat of a large swelling, which can be displaced more easily from one side to the other from above downwards. At first, light frictions over this part will probably cause the swelling to disperse; not so, when the malady is farther advanced. Pressure on the part usually causes a certain degree of uneasiness, but rarely any acute pain. In the left iliac region, the descending colon may often be felt filled with indurated fæces. A sense of pain and numbness is not unfrequently felt along the line of the *iliacus internus* muscle from the groin downwards along the inner side of the thigh; this feeling usually becomes more and more distressing as the complaint advances." He adds—

"A dull sound is elicited by percussion of the right iliac region."

The various symptoms, which attend this disorder, may exist for several days before they come to any crisis. Professor Albers has observed in some cases that the most conspicuous symptom for a great length of time is a most troublesome itching of the surface. If a diarrhœa should take place, whether spontaneously or from the use of purgative medicines, the symptoms are usually rapidly and effectually relieved.

It is truly astonishing what enormous quantities of fæces have been discharged before entire relief is obtained.

There is no doubt but that this complaint—irritation of the cæcum from accumulation of fæces—may in most cases terminate favorably. It is only in a few rare instances that from some cause or another there is a permanent lodgment of the fæces in the cavity of the gut—either from paralysis of its muscular tunic, or from some obstruction in the colon or rectum—and that this accumulation excites an inflammatory and perhaps at length a suppurative action in its walls or in the adjacent cellular tissue. When the abscess bursts outwardly, fæculent matter is not however in all cases mixed with the purulent discharge; as the gut may perhaps never have been perforated, or the aperture may have been so small that it has subsequently closed up.

Such cases not unfrequently terminate well, the suppuration gradually diminishing and the abscess at length healing up. In a few rare instances, the inflammation has terminated in gangrene. The following one occurred in Professor Albers' practice.

An old man, who had been for a length of time affected with Prurigo senilis and with a most troublesome constipation, was suddenly seized, after a full meal, with the symptoms of an enteric *phlegmymenite*. (What does this new word mean? we have never met with it before.—*Rev.*) The pain was chiefly in the right groin, which was tumefied; the patient had frequent calls to go to stool, but he could not satisfy them. For four days there was no relief of the bowels. Vomitings came on. On the seventh day, the patient became delirious, then comatose, and died.

Dissection.—The cæcum was found so much altered in its tissue that it gave way on the slightest pressure. On its internal wall there was a perforation, through which some fæcal matter had escaped into the abdominal cavity; the cæcum itself contained a quantity of fæces, and not fewer than 27 kernels of plums. All the adjacent parts presented traces of severe inflammation.

Finally, we may state that, in a few instances, the life of the patient has been much prolonged by the establishment of an *anus contra naturam* in the right groin.

As affording an illustration of many of the foregoing remarks, we shall briefly report one case more.

A man, 72 years of age, died last year in the Salpetrière at Paris, after protracted suffering from intestinal disturbances. The inferior part of the sigmoid flexure was much contracted; and the consequence of this lesion had been that an immense quantity of fæces, in large hard lumps, was accumulated in the transverse portion of the colon, which might actually be felt through the thin parietes of the abdomen; the liquid parts seemed to have been, as it were, filtered through them, and hence during life, the patient had supposed that he had a diarrhœa. He died suddenly and without experiencing much pain. On dissection, a large ulceration was found in the cæcum, and a cancerous contraction of the sigmoid flexure.

In another case—which terminated favourably—where the rectum was obstructed by an encephaloid tumor, the fæces had accumulated in large hard balls in the sigmoid flexure and descending portion of the colon. The cæcum and rest of the colon were distended with gas. This state had continued for upwards of a twelvemonth, when suddenly the abdominal parietes became the seat of sharp pains, which were most severe in the right groin. By the use of purgative medicines, an immense quantity of the large fæcal balls was discharged, and the patient was speedily relieved.

In conclusion, we may direct the reader's attention to an essay by Dr. *Ferral,* in the Edinburgh Medical and Surgical Journal for July, 1831.—*Beobachtungen auf dem Gebiete der Pathologie.*

CASES OF OPERATION FOR ARTIFICIAL ANUS IN THE LEFT LOIN; DISCUSSION AT THE ROYAL ACADEMY.

Case. 1.—A middle-aged woman, who for many years had been subject to constipation, but who had long enjoyed perfect health with the exception of some difficulty in defecation, was at length seized with so obstinate an obstruction of the bowels that all means failed to procure an evacuation. For 26 days there was no relief, and the patient suffered from the most excruciating torments in the abdomen. M. *Barras,* then M. *Amussat,* and lastly a consultation of these two gentlemen associated with MM. *Fouquier, Recamier, Breschet* and *Puyoo,* were called in to the case.

M. *Amussat,* having pushed his finger up the rectum as high as it could possibly go, felt a round and firm tumor, which seemed quite to plug up the gut. This result, says the reporter of the case, was particularly confirmed by M. *Recamier,* "whose great precision of touch so often enables him to form the most unexpected diagnosis." As all medical means had failed, it was resolved to give the patient a chance of recovery by forming an artificial anus in the left lumbar region. MM. *Recamier* and *Breschet* at first wished that the bowel be opened in the left groin; but, M. *Amussat* having convinced them of the practicability of performing the operation in the left lumbar region, they assented to his proposal.

The following is the description of the operation which M. *Amussat* performed:

"A transverse incision, four inches and a half long, was made in the left loin, extending from the edge of the sacro-lumbaris muscle to about two fingers' breadth from the upper crest of the os ilii. The trajet of this incision comprised the entire thickness of the abdominal muscles and the adipose-cellular tissue, in which the kidney is enveloped, and by which the posterior surface of the lumbar colon is attached. This intestine being extremely distended with fæces—so much so indeed, that there was quite a prominent fulness on this side of the loins before the operation—protruded between the lips of the wound. It was readily recognised by the arrangement of its fibres and by the purplish colour it exhibited. Two arteries were secured by torsion, and a needle, armed with a waxed ligature, was passed through the most prominent part of the gut in order to prevent its receding upon being opened. A trochar was then plunged into it; a quantity of gas and of liquid fæculant matter escaped.

The opening was enlarged by a probed bistoury to the extent of an inch and a half. Immediately, the fæces were discharged in great abundance and in an almost continued stream, until three vessels were filled. Injections of tepid water were passed both up and down the gut, by the use of which a considerable quantity of tolerably consistent fæces was washed out. The edges of the gut were then secured to the lips of the wound by five stitches, and a large poultice was laid over all."

It is unnecessary to follow the report in its subsequent details. Suffice it to say that the patient gradually recovered, the artificial anus continuing to perform its duty about twice a day. Nothing but the gaseous contents of the bowels escaped by the natural anus. Four months subsequently, the patient continued well.

Case 2.—A man, 62 years of age, had for a length of time been subject to a most constipated state of bowels and to piles. The act of defecation was almost always attended with difficulty and pain; and occasionally the rectum was so much obstructed by the accumulation of hardened fæces that it was requisite to extract them. Usually blood was discharged along with each stool; and, for two or three years past, the dejections were frequently streaked with mucosities and purulent matter.

Dr. *Foville*, who was first consulted, ascertained that about an inch and a half up the rectum there was a carcinomatous tumor, which blocked up the gut so much that the fore-finger could scarcely be made to pass through. A consultation consisting of MM. *Recamier*, *Breschet* and *Amussat* was called. It was resolved to attempt the destruction of the tumor by crushing with long forceps the projecting granulations of the cancerous ring (*bourrelet*)*. This was done by M. *Amussat*. When the blood and bruised portions of the tumor were removed, a stream of cold water was injected up the gut with the view of preventing the accession of inflammatory mischief.

Eight days after the *broiement*, it was determined that recourse should be had to cauterization with potassa, with the aid of the speculum. This was repeated seven times, at intervals of three or four days; the cold lavements being repeated after each application. The effect of the treatment now described was to reduce the tumor to one half its original bulk.

The condition, however, of the patient became gradually worse. For ten or twelve days at a time the bowels would not act, and when an evacuation—or, as the French term it, a *debacle*—occurred, the patient's strength was quite exhausted. The symptoms became so alarming that his speedy death seemed inevitable, unless some surgical operation was performed to provide a mode of relief for the bowels.

It was resolved, in a second consultation, that an artificial anus should be established as in the preceding case. It was performed as follows, by M. *Amussat*.

"A transverse incision, four inches and a half in length, was made at about a finger's breadth from the spinous processes of the vertebræ, and midway between the last rib and the crest of the os ilii. At the anterior angle of the incision was observed the sac of the peritoneum, beneath which the small intestines were visible. The lumbar colon was found to be strongly contracted upon itself, and to be in a great measure covered by the *quadratus lumbi* muscle, which it was therefore found necessary to cut across. The intestine, being seized, was opened with a bistoury; nothing but gas and a few fæcal bullets escaped.

The edges of the gut were secured to the lips of the wound with four stitches; the latter being subsequently brought together at each angle by three points of the twisted suture. For five days subsequently, scarcely any thing escaped from the artificial opening; and the injections of water which were thrown into the colon returned altogether by the natural anus.

The artificial anus was, however, gradually enlarged by means of prepared sponge, elastic-gum and wax bougies. The effect of this was that the escape of fæcal matters was greatly facilitated; and, as this discharge took place, the general health of the patient was much improved. The stools became gradually regularised, and the fæcal bolus was at length expelled from the artificial opening in a cylindrical form."

The tumor in the rectum remained stationary, with the exception of being of harder consistence.

---

* We must reprobate such practice as positively murderous, if the disease be genuine cancer. Our readers may remember some remarks of ours on this fatal error of French surgery in our notice of the last illness of the celebrated *Broussais* in the last number of this Review, M. *Amussat* was the surgeon in that case too.

Discussion on the preceding Cases at the Royal Academy.

M. *Velpeau*, while he admitted the great merit of his colleague M. *Amussat*, in having been the first to prove the safety of *Callisen's* operation for artificial anus in the left loin or flank, was still inclined to give the preference to the older one recommended by *Littré*, even though the peritoneum is thereby necessarily opened—whereas in the other method this is avoided—and which consisted in opening the colon in the left iliac fossa. He himself had performed it once in an old woman, who however died two days afterwards. M. *Syme*, of Edinburgh, lately performed the same operation in a case of cancerous tumor of the rectum, and his patient survived for sixteen months; and in *Markland's* case, life was prolonged for upwards of four months.

One important advantage of Littré's operation is that the artificial anus is situated in a more convenient position, the patient being able to attend to it himself; whereas this is almost impossible, if it be in the loin.

M. *Velpeau* gave credit to M. *Amussat* for the modification which he had introduced into *Callisen's* operation—viz. the substitution of the transverse in place of a vertical incision in the loin.

M. *Gerdy*, however, seems to give the preference to the latter line of incision, as recommended by Callisen. He alluded to the extreme difficulty of the diagnosis in cases of diseased rectum, which may induce the necessity of an operation for artificial anus, and suggested that, whenever there is any uncertainty in the diagnosis, the sphincter ani should be freely divided to enable the surgeon to pass his finger up the gut as high as possible.

M. *Amussat* expressed himself opposed to the suggestion of M. *Gerdy*. In his opinion, the finger may in most cases be pushed up very high, especially if an assistant presses up the elbow of the surgeon at the same time.

M. *Breschet* spoke in terms of the highest approbation of the ability of his friend M. *Amussat* in planning and in performing the operation in the two cases which have been described. He had assisted at both. He frankly admitted that he had been inclined to *Littre's* operation, until he had witnessed, first, the experiments by M. *Amussat* on the dead body, and, subsequently, the two operations on the living. He had himself made numerous examinations of the relative anatomy of the colon in the left loin, with the view of determining whether at this part there was usually a mesocolon or not. The result of his enquiries was, that in some cases the peritoneum invested every part of the intestines; and that, in other cases, a small portion of its posterior surface was left uncovered.

The extent of the uncovered surface, however, depended greatly on the circumstance whether the gut was distended or empty. But even when a distinct mesocolon was present, he was of opinion that its layers might be easily separated either by the handle of the scalpel, or by blowing into the cellular tissue between, and that thus the intestine might be opened, without necessarily wounding the peritoneum. He decidedly preferred the transverse incision of the abdominal parietes practised by *Amussat*, to the vertical one as recommended by *Callisen*.

M. *Blandin* concurred entirely in the opinions of the former speaker. He thought that great merit was due to his colleague M. *Amussat*, for having by his boldness and talent rescued the operation of *Callisen* from oblivion, while at the same time he had decidedly improved it by one or two important modifications.—*Bulletin de l'Academie.*

On Arsenic in the Bones of the Human Body.

M. *Orfila* recently submitted the results of some researches on the above subject to the Royal Academy.

The following is the method by which he has succeeded in detecting the presence of a minute portion of arsenic in human bones, in a natural state.

The bones are to be first calcined, but not by too high a heat, and they are to be carefully preserved from any contact with the fuel employed. The pulverised mass, being previously sifted, is to be treated with *purified* sulphuric acid; the mixture is then to be introduced into Marsh's apparatus. Spots or stains of arsenic, having a brown colour, and a metallic brilliancy, will soon be perceived on the sides of the vessel.

M. *Orfila* has succeeded in detecting minute portions of arsenic in the bones, not only of the human adult, but also of the sheep, ox, and horse. Hitherto he has never discovered any traces of its existence in any of the soft parts of the animal body.

He seems, however, to believe that there may probably be a very small portion in muscular substance, although hitherto he has quite failed in detecting its traces. Some of the appearances, however, observed during its slow distillation have been not unlike to those which are known to proceed from the presence of arsenic.

On Incontinence of Urine in Children.

Treatment.—The late Baron *Dupuytren*, and also MM. *Baudelocque* and *Guersent* have recommended the use of cold shower-bathing as one of the most effectual remedies against this most annoying and frequently most obstinate complaint.

M. *Lallemand*, of Montpelier, has great confidence in aromatic bitters to which a small portion of brandy has been added, followed by active friction of the loins.

Underwood recommended the use of sea-bathing, of dry cupping, of blisters on the sacrum, and of electricity.

As internal medicines, the Spanish fly and the nux vomica have been unquestionably the most efficacious. The preparation of the latter, which has been most successfully used, is the extract in doses of from half a grain to four grains in the course of the day. The following two cases may be read with interest.

Case 1. A girl, 12 years of age, had been affected from her infancy with incontinence of urine, her general health being unaffected all the time. It would seem that no remedial means had ever been tried.

Dr. *Ramaugé*, who accidentally saw the girl at a house where he was visiting, recommended her to take one of the following pills, along with a wine glassful of infusion of Quassia, three times a day:—

℞. Extracti nucis vomicæ gr. viii.
Oxydi ferri nigri ʒi.
Pulv. Quassiæ ʒi.
Syrupi absinthii q. s.
In pilulas xlviij. divide.

A tonic nourishing diet was ordered, and also a glassful of wine two or three times a day. By persevering in this course for a month, the patient was quite relieved from her distressing malady.

The treatment was, however, continued for another month; and at the date of the report there had been no return of the complaint for upwards of a year.

Case 2. A boy, ten years of age, had long been affected with nocturnal incontinence of urine. During the day he had very frequent calls to urine, the bladder being unable to retain only a very small quantity at a time. He was ordered an infusion of Quassia and half a grain of extract of nux vomica in four pills during the course of the day. After three weeks' employment of this regimen, the boy could very sensibly retain his urine a great deal better, the calls being much less frequent. A blister was applied upon the sacrum, and a cold aromatic bath was to be employed twice a week. In the course of a fortnight, the nocturnal incontinence had quite ceased, and the patient continued well for six months.—*Journal des Connoissances Medicales.*

ON ACUTE GLANDERS.

From a very able report, by MM. *Nonat* and *Bouley*, on the recent work of Dr. *Deville* on Glanders, we shall extract a few passages.

After admitting that the transmission of the disease, from the horse to man, was recognised and admitted in Britain, Germany, and the United States, for several years before the French practitioners gave in their consent, they go on to state:

" Dr. *Rayer* had read with the greatest interest the very remarkable memoir of Dr. *Elliotson*, when, in February 1837, a groom was accidentally admitted into the Hôpital de la Charité, affected with typhoid symptoms, subcutaneous abscesses, and a pustular and gangrenous eruption on the skin.

This patient died; and, on dissection, numerous pustules were found dispersed along the nasal passages and in the larynx, and several small abscesses were discovered imbedded in different parts of the lungs. M. *Rayer* had at once predicted the nature of the disease during life: and his opinion was quite confirmed by the results of the necroscopic examination. He ascertained subsequently that this man had, for some time, been in the habit of sleeping in a stable, where several glandered horses were kept."

When the report of this case was communicated to the Royal Academy of Medicine, it met with the most animated opposition from the veterinary surgeons who have a seat there. M. *Rayer*, however, was nothing daunted; indeed, this very opposition induced him to prosecute his enquiries with redoubled zeal.

Aided by M. *Leblanc*, a very intelligent veterinary surgeon, he applied himself to study the disease of glanders, and other cognate morbid affections, as they occur in the horse; and the result of his enquiries was, that he came to the conclusions that—

" The glanderous principle shews itself in solipedous animals under four different forms—the acute glanders, the chronic glanders, the acute farcy, and the chronic farcy;—and that each form may exhibit a variety of modifications from the union, in one case, of the characters of several together."

Having established these principles, he then set himself to collect all the cases on record of the alleged transmission of glanders from the horse to man, and to arrange them under the four principal forms now mentioned.* These are all detailed at length in the memoir, which he published, and which has excited so much attention among all practitioners, veterinary as well as medical. Within the space of a year, several new cases were observed and reported by some of the leading physicians and surgeons of the metropolis, as MM. *Breschet*, *Andral*, *Husson*, *Jobert*, *Roux*, and others. In all of them the symptoms, characteristic of the disease, were observed in men who had had to do with diseased horses.

---

* The chronic form of glanders, when it affects men, is infinitely less frequent than the acute, even when the disease in the horse, which gave the infection, was of the chronic nature.

MM. *Nonat* and *Bouley* have subsequently established the important fact, that the glanderous principle is communicable from man to the horse, as well as from the horse to man. M. *Nonat*, having met with a patient affected with acute glanders, inoculated a sound horse with some of the discharge from an abscess which had formed over the right parietal bone; and the result was that the horse became diseased.

As the case is a very interesting one, we shall give some particulars of it.

In February 1839, a young man, 21 years of age, was admitted into the Hôtel Dieu, under the care of M. *Nonat*. He was in a state of great prostration of strength, and highly feverish; his breathing was rapid and oppressed; the skin was hot, the face flushed, the eyelids swollen, and the eyes themselves glazed. The right side of the forehead was red, painful and puffy; further back there was a swelling on the scalp, which, when pressed upon, conveyed to the finger a sense of fluctuation. Other two abscesses existed; one on the right thigh, and the other on the left leg. Next day several pustules made their appearance on several parts of the body; and now, when the nostrils were compressed, a sanguineous frothy fluid exuded out. This pressure caused pain; and at the root of the nose the integuments began to exhibit a red and swollen appearance. During the night a purging came on, and the patient was excessively restless and uneasy.

On the following morning there was a drowsiness, which was speedily followed by a state of complete coma; different portions of the scalp and face had become of a livid aspect; other abscesses had made their appearance in various parts of the body, and there were fresh pustules on the arms, legs, and chest; a thick yellowish-white discharge also oozed from both nostrils. All these symptoms continued to increase until next day, when death took place.

Dissection.—The body was covered with pustules, which were depressed on the surface *(affaissées,)* without any redness at their base, and of a dull white aspect: some were ulcerated.

The alterations of the lymphatic system were in strict relation with the pustular eruption on the surface. The ganglia, which were the most diseased, were those in the armpits and groins.

In addition to the abscesses noticed above, there were found many others in various states of maturity; some having the appearance of diffused purulent collections, but the greater number being very similar to what are well known under the name of metastatic abscesses. The veins of the dura mater and the cells of the diploe presented many traces of marked inflammation.

The mucous membrane on the septum narium was swollen and highly injected with blood: here and there dark patches of ulceration, and several pustules also, were observed. On the floor of the nostrils the mucous membrane was found thickened, very much softened, and covered with a gray-coloured *detritus:* the maxillary sinus was full of a yellowish viscid mucus.

On the surface of the lungs there were numerous ecchymosed spots; and imbedded within their parenchyma were several abscesses—under the form of circumscribed pulmonary hæmorrhages, having a purulent infiltration in their centre. The largest of these were of the size of a walnut, the smallest of that of a hazel-nut.

Remark.—It was with the matter taken from one of the abscesses of this patient that M. *Bouley* inoculated two horses: it was inserted at the margin of the nasal passages.

In one of them the acute form of the disease very quickly shewed itself, and the animal died on the eighteenth day, after having exhibited all the usual symptoms of decided glanders.

The other horse lived for twenty-eight days, and then died very suddenly; the immediate cause of death being certainly a rupture of the aorta; although many of the symptoms of acute glanders had been manifested during life, and also some of the most pathognomonic traces of this disease also were discovered on dissection.

To add further weight to this conclusion—that the glanderous principle may be communicated from man to the horse, we may state that MM. *Nonat* and *Bouley* inserted some matter taken from one of the horses, which had been inoculated from their patient, into another horse, and that this last animal quickly sickened, and eventually died with all the symptoms of the genuine disease.—*Revue Medicale.*

MEMORANDA ON THE TREATMENT OF APOPLEXY.

Dr. *Jourdain,* the author of the following observations, very justly remarks in reference to the treatment of all diseases, that "no sound therapeutics can exist without an accurate knowledge of their pathology, or, in other words, of their organic causes. Without such a knowledge, practical medicine is nothing better than a methodic empiricism." It must be acknowledged that even in the management of not a few maladies, whose real nature and cause are tolerably well known, it is impossible to lay down any definite line of practice, applicable to every case and to all circumstances. Of no malady is this remark more strictly true than of the hæmorrhagic apoplexy of aged people. The too common practice of at once resorting to blood-letting, whenever the supposed symptoms of this disease are present, is now admitted by almost every intelligent physician to be alike most unscientific in theory, and most pernicious in practice.

Before examining this point we shall very briefly mention the views, which seem to us the most rational, as to the nature of *encephalorrhagia* in old people.

Cerebral hæmorrhage in old people results from the rupture of a blood-vessel or blood-vessels, which have become altered in their texture, either from cretaceous concretions in their parietes, from ulcerations, or lastly from the softening of the cerebral substance itself. If apoplexy resulted from a simple sanguineous exhalation, as many physicians seem still to believe, it would surely be more frequent in young than in aged persons. But this we know to be certainly not the case: genuine *encephalorrhagia* being very rare in early and in middle age. Again, how often does an attack of apoplexy take place most unexpectedly, when the patient was, almost the very minute before, in seeming perfect health, and at a moment when his circulation was quite tranquil and undisturbed! The disease may in some instances be induced by causes, moral as well as physical, which tend to increase the rapidity and impetus of the cerebral circulation; but it is equally true that very often it suddenly occurs without any such premonitory phenomena. In a few instances indeed the blood-vessels of the brain have actually been found on dissection to be nearly empty of blood. *(Abercrombie.)*

With respect to the *causes* of cerebral congestion, Dr. *Jourdain* suggests that they may be well arranged in the following manner:—

- A. Encephalopathy
  - Idiopathic
    - Mental affections.
    - Alterations of the Blood.
  - Sympathetic
    - Indigestion.
    - Constipation.
    - Sexual intercourse, &c.
- B. Obstacles in the course of the blood
  - Diseases of the heart.
  - Influence of cold on the surface, &c.

He then proceeds to offer some remarks on the treatment of the various forms of cerebral congestion, which arise from the different various causes now enumerated. He is, we may remark, decidedly opposed to the detraction of blood, when the disease is manifestly attributable to any intense mental or moral emotion of the mind, as fear, surprise, grief, or excessive joy, remarking: "It is either by the intestinal discharges or by cutaneous transpiration that nature seems to obviate the effects of fright. Tears, it is well known, are the natural relief of grief. Again, a sudden diarrhœa will often save from convulsions infants, when their nervous system is much excited by painful dentition. In short, the secretory and excretory systems seem designed to give an exit to the nervous fluid, when it has become suddenly accumulated in any of the internal organs. If, however, severe mental emotions should induce inflammatory phenomena, it may be necessary to have recourse to blood-letting to relieve the symptoms. But on the whole, it is better to employ in most cases soothing medicines, rubefacients, &c. and especially endeavour to imitate nature by promoting certain secretions. *Quo natura ducit, eo ducendum.*"*

Passing over Dr. *Jourdain's* remarks on the influence of alterations in the condition of the blood itself, and also of indigestion and constipation, in inducing cerebral congestion, we proceed to what he says of the treatment of those cases, where the disease is connected with organic disease of the heart—his object, be it remembered, being all along to point out the inefficiency and danger of blood-letting in many of the forms of apoplexy.

Alluding to the opinion that hypertrophy of the heart is a frequent cause of cerebral disease—an opinion, by the bye, which has been most perseveringly combated by M. *Rochoux*—he quotes passages from several distinguished writers who have pointed out the evils of indiscriminate blood-letting. The following extract from *Andral* is certainly pertinent to his purpose:

"The mere size," says this distinguished pathologist, "of a muscle is not the only condition or element of its energy. If this be true, the reader will perhaps at once perceive how much it must influence our medical practice in the treatment of diseases of the heart in aged people. Bloodlettings should not be employed in their case but with great caution, and only as a mechanical means to relieve the oppression of the vascular system. When carried to a large extent, they are almost always essentially hurtful; whereas stimulant medicines may often be employed with most advantageous results."

Rostan has also strongly expressed a similar opinion in these terse words, *il faut etre avare du sang des vieillards;* and in another passage he says: "the cure of cerebral hæmorrhage must depend on the absorption of the coagulum. Now, in order that this may take place readily, the body must have a certain degree of force or energy. As this force is necessarily feeble in old age, how can the absorption take place, if the system be still further reduced by debilitating measures?"

Piorry likewise writes thus: "Drastic purgatives diminish the quantity of the circulating fluids. They have this advantage over blood-letting, that they drain off the serosity of the blood, without affecting its fibrinous portion."

---

* The English reader will object to part of the reasoning in this extract; still there is some practical truth in the remarks.—*Rev.*

Laennec has quoted from *Corvisart* a case which is strongly confirmatory of the good effects of drastic purgatives in some extreme cases of diseased heart, accompanied with dropsical effusions.

A man, whose speedy death *Corvisart* considered inevitable from such a state of complicated mischief, and who had not obtained any relief from blood-letting or the use of diuretics and various other medicines, applied to a charlatan who had acquired quite a reputation, in the faubourgs of Paris, for the cure of dropsy. This man gave the patient a strong drastic powder, mixed up in two ounces of brandy: it acted upwards of twenty times on the bowels. A similar dose was repeated every day for a week. Under this regimen, the serous diathesis was completely overcome, and the patient lived for ten years afterwards in a very tolerable state of health.

The *great* scope of Dr. *Jourdain's* paper is to recommend the use of drastic purges and also of emetics in the treatment of almost every form of apoplexy, when the constitution is not too much enfeebled. In some cases the employment of stimulants, he says, especially of ammonia, and of depurative bitters, such as *polygala, trifolium aquaticum, marrubium,* &c. along with strong purgatives, is productive of the most beneficial effects. By such treatment a powerful derivative action on the bowels is produced, and the absorbent system is thus stimulated to remove the effused fluid. *Abercrombie* has justly remarked that the first amendment in a case of apoplexy is usually obtained by the action of energetic purgatives; and the same distinguished author—not to mention others, as *Sydenham, Boerhaave, Lieutaud,* &c.—approves of the use of emetics. *Moulin* regarded this class of medicines as so very useful that he proposed the injection of them into the veins, if vomiting could not be induced in the ordinary way. On this proposal, *Abercrombie* remarks that, " this practice must be founded in observation and experience." Dr. Jourdain recommends that they should be repeated at intervals of twelve hours or so. The doses should be large and efficient.

He very judiciously observes,

" Before having recourse to any evacuants in the treatment of apoplexy, ice should be laid upon the head, and at the same time blisters on the arms and sinapisms on the legs."

He again alludes to the good effects of free doses of ammonia, in those cases of cerebral congestion which are brought on by mental emotions or by indigestion. But when the disease is at all connected with obstruction to the return of the venous blood, this, as well as all other stimulants, should be avoided.

Portal has observed that " several patients, who have consulted me, have been preserved from apoplectic attacks by the use of sudorific decoctions, sharpened by the addition of liquid ammonia."

Such practice, with the occasional use of emetics, is far preferable to the use of strychnine and other such poisonous substances, in the treatment of palsy.—*Bulletin Medical Belge.*

M. TROUSSEAU ON THE USE OF BLISTERS.

There is so much practical and *English-like,* so to speak, spirit in a recent letter addressed by M. *Trousseau* of Paris to M. *Brettonneau* of Tours, his former preceptor, that we shall extract several passages, and give a short abstract of the rest.

After alluding to the admirable instructions contained in the chapter of *Stoll's* Ratio Medica, *De quibusdam magni momenti minutiis,* which M. *Bretonneau* had so earnestly recommended to his notice during his pupilage, M. *Trousseau* proceeds :—

" I early took, at your school, antipathy to all empty speculations which lead to no practical end, and a great contempt for the laborious and sterile lucubrations of those who seek for posthumous fame by the discovery of some new auscultatory râle, or by the microscopic detection of some hitherto unnoticed morbid production. *En revanche*, I have always esteemed in a very particular manner such physicians as are willing to descend from the high region of what now-a-days is called *science*, and who will talk with me of what they have found to be really useful in the treatment of any disease, however simple and seemingly trifling the remedy may be. To tell the truth, I have much greater pleasure in meeting with a man who will teach me the best mode of making a poultice than with him who professes to instruct me in the differences between the *râle ronflant* and the *râle sonore*, or how to distinguish the *râle sibilant* from the *soufflant râle*, or this latter from the *turturin râle*, or this again from the *roucoulant râle*, or the *caverneux* from the *cavernuleux râle*, and all such petty distinctions. You indeed in the provinces are sadly *arrierés*, not recognising, I am told, more than the four or five different *râles* described by *Laennec*."

M. *Trousseau* then good-humouredly confesses that, although he is Professor of Therapeutics to the Faculty of Medicine in Paris, he is often at a loss as to the proper method of performing some of the simplest niceties in practice, such as the dressing of a blister, the application of leeches, &c.

The blistering plaster which M. *Trousseau* prefers to all others, and is the one which has always been used by M. *Bretonneau*, is prepared by adding powdered cantharides to sweet oil, till the mixture acquires the consistence of an electuary. It is then to be nicely spread upon adhesive plaster, and may then be applied to the skin. The interposition of a piece of blotting-paper between the skin and the blister renders the application altogether more cleanly, and diminishes the risk of urinary irritation, without impeding the efficacy of the remedy.

This is the form of blister which MM. *Velpeau* and *Trousseau* have introduced from the hospital at Tours into those at Paris under the name of *vesicatoire Brettonneau*, and is infinitely superior to the numerous preparations which are vended by the French pharmacopolists under the names of *vesicatoires Anglais*, *vesicatoires par incorporation*, &c.

The vesicant effects of the cantharides plaster seem to be rendered more certain, if its surface is smeared over with the *huile de cantharides par ether*—for which there is the following formula in the last codex :—

Take of powdered cantharides 2 livr.
Sulphuric æther, a sufficient quantity.

Make a tincture by lixiviating the mixture, and draw over the ether by slow distillation. A green thickish oil, which has very strong vesicant properties, is thus obtained.

M. *Trousseau* has of late tried this *etherial extract of cantharides* as a vesicant by itself in the following manner.

A portion of paper (such as is used by women for curling their hair), of the size of the wished-for blister, is to be laid upon a piece of diachylon plaster somewhat larger. A few drops of the *extract* are then to be poured upon it, so as to moisten it sufficiently, without however wetting it. This application causes heat in the part in about two hours, and, in the course of seven, a blister is usually raised. Perhaps the medium time required is from eight to nine hours.

The extreme convenience and cleanliness of this kind of blister must certainly recommend it under many circumstances; and, as it is not more expensive than the blisters in common use, the facility of the preparation renders it well adapted to military and hospital practice. M. *Bouillaud* employs this style of blister almost constantly at the Hôpital de la Charité; and already the *ethereal extract* is in great demand at many other of the Paris hospitals.

The extract is of a green colour and of the consistence of olive oil. It deposits a matter of a buttery consistence, which is excessively acrid and irritating. If incautiously applied to the skin, it produces a painful ulceration, which is often very difficult to heal. This deposit is readily soluble in oil, and the solution, if not too weak, is found to be an energetic vesicant.

M. *Trousseau* suggests that, as the ethereal extract seems to contain all the active properties of cantharides, a convenient and useful mode of preparing the tincture might be by dissolving a certain quantity of it in alcohol.—*Journal des Connoissances Medico-Chirurgicales.*

ON THE THERAPEUTIC PROPERTIES OF PRUSSIC ACID.

The rapidly fatal effects of even a small dose of this most potent poison are well known to every one. Even in the hands of medical men it has unfortunately, in some cases, produced lamentable effects.

In 1831, at the Bicetre Hospital, one of the most distinguished physicians of that establishment, who had on several occasions successfully prescribed the *sirop cyanique* prepared according to *Majendie's* formula, ordered to seven epileptic patients at the same time a certain and regulated dose of this syrup; but, in place of *Majendie's* preparation being used, most unfortunately that ordered by the Codex was employed—the latter containing a *tenth* part of the pure acid, whereas in the former there is only a hundred and twenty-ninth part. In each dose nearly five grains and a half of the concentrated acid were administered. All the patients died in from twenty minutes to three quarters of an hour after the exhibition of the medicine. On one occasion M. *Trousseau*, whose boldness in the use of certain medicines every one knows and many condemn, exhibited to a hydrophobic patient thirty-six drops of the medicinal acid in one dose. In a few seconds the man fell as if stricken dead: when he recovered, six drops more were given. As soon as the acid this time touched his tongue, he again seemed as if he had been struck with a thunder-bolt. A few minutes afterwards, however, he regained his senses.

The following memoranda on the effects of moderate doses of this medicine have been drawn from the clinical practice of M. *Andral*, whom no one will suspect of an unscrupulous and improper boldness in experimenting on his patients.

Epilepsy.—A young soldier, who had most miraculously escaped from being decapitated by three Bedouins near to Constantine, was suddenly seized with frightful convulsions when he reached the nearest sentinel station at the outposts. From that time to the present he has been subject to returns of the fits, at longer or shorter intervals. The attack consists in a paroxysm of violent convulsive movements of almost every part of the body, accompanied with occasional shouts or screams, and a few broken unintelligible words. After a short time, the muscular agitation ceases, and then there supervenes a state of delirium; during which the patient almost invariably reverts to the horrors of his threatened death, at the moment when he escaped. According to his own account, every circumstance of the horrible picture is always vividly presented to his mind during the delirious wandering.

M. *Andral* put him on a course of the hydrocyanic acid, beginning with four, and gradually increasing the dose to eighteen drops—which quantity is equal to three drops of the anhydrous acid. The only symptom produced by the small doses was a sensation of painful heat in the stomach after each dose: this became much more severe as the quantity of the acid was increased, and it was then accompanied with a generally-diffused heat over the entire surface of the body, with vertigo, and a sort of muscular anxiety which made the patient dread the return of the convulsions. These accidents continued for only a few minutes, and passed away insensibly under a gentle perspiration. The dose of the acid was nevertheless increased to twenty drops. The burning sensation in the stomach was described by the patient to irradiate to the chest, limbs, and even to the very points of the toes and fingers. On one occasion, after experiencing dizziness, he fell down as if struck by a blow upon the head, and remained in a state of delirium for nearly two hours. The progress of this case was altogether unsatisfactory; for the tendency to delirium seemed to become greater, and nothing occurred which gave any encouragement to the hope of effecting a cure.*

From the results of this and of many other cases of convulsive disease, we are led to regard the prussic acid as a very inefficient remedy. The diseases in which it has been found most useful are various affections of the stomach and also of the lungs and heart. In cardialgia and morbid irritability of the stomach, in asthma and pertussis, and in hypertrophy of the heart, decidedly good effects have been derived from its administration. One of the best formulæ for its exhibition is in almond emulsion, or in some mild bitter infusion, with or without the addition of digitalis. It may also be usefully added to the common effervescing mixture, which is so useful a vehicle for the administration of many active medicines.

As an external application, the hydrocyanic acid is certainly very beneficial in various irritated or inflamed conditions of the skin. Usually it is best to add it to the common Goulard lotion in the proportion of from ʒij.—iv. to half a pint, and this should be applied lukewarm to the part, which should then be covered with a piece of oil-silk. In this simple manner a constant moisture is kept up.—*Bulletin Medical.*

STATISTICAL RESEARCHES ON THE DURATION OF LIFE.

In one of the recent numbers of this Review we gave an abstract of the first part of M. *Bellefroid's* researches on this curious subject. We now proceed to notice the second part, and extract what seems to us the most interesting particulars.

Influence of Profession on the Duration of Life.

Without making any prefatory remarks, we present the following table as conveying the results of Dr. *Bellefroid's* calculations, founded upon the data of numerous registries.

Calculated from the 28th year of age, the probability of life may be estimated in—

Catholic priests to be to the age of	69 years.
Protestant clergymen	65
Savans	66
Professors in Universities	63½
Military Officers	64½
Poets..............................	61
Artists	62

---

* In our opinion, prussic acid is not the medicine from which we should have expected much benefit in the treatment of such a case. The use of carbonate of iron or of some other ferruginous preparation, and of free doses of hyosciamus at bed-time, might have been productive of decided benefit; the object being to tranquillize the nervous system, and to invigorate the general health. Cold shower bathing also is a useful remedy in such cases.—*Rev.*

Farmers	64 years.
Merchants	64
Physicians—theoretical	64
Physicians—practical	60
Female Artists, Literary Characters, Actresses, &c.	63½
Barristers	62
Kings	56½
Mendicants	56

As an appendage to the preceding table, we may state that it has been estimated that 13 only out of a hundred kings attain the age of seventy years; whereas to the same period of life not fewer than 46 catholic priests, 41 savans, 37 farmers, 36 military officers, 33 professors, 29 barristers, 26 physicians, and 21 mendicants, are calculated to survive; the date, from which the calculation is taken, being usually the 21st or 22d years of life.

The general conclusions to be derived from these data must be at once obvious. The average life of kings is short, compared with that of clergymen and philosophers, who—

Along the cool sequestered vale of life,
Have kept the noiseless tenour of their way.

And who can wonder at this, when they consider the career of the former; their life being one of ceaseless and most fatiguing excitement; minds as well as bodies inflamed by ever-recurring sensual enjoyment, and exhausted by the constant turmoil of unrestrained passions. Tossed about between the extremes of joy and grief, it is only by stealth, as it were, that they can taste that peace of heart and that silence of the feelings which are so essential to the calm and unconscious flow of life. How different the career of the contented Catholic priest! The temperance, the chastity, the absence of all the violent passions, associated too with a due activity alike of the body and of the mind—these are the elements of the healthfulness and longevity of such a profession.

If we now turn to the life of poets and artists, we find that on the whole they too do not live so long as clergymen: the excitability of their passions, and the over-vivacity of their temperament being doubtless unfavourable to the tranquil movements of prolonged health.

We may be at first surprised to hear that military officers are among the most favoured of the classes, and also that the life of barristers is not so good as that of artists and poets. But we should remember that the above table comprises only the superior officers, who are almost always 30 years of age or upwards when they attain to high rank in either service; and that many barristers are not more than 20 years of age, and scarcely any exceed the age of 25, when they become so.

So much for other professions: let us now hear what our author has to say on the case of *doctors*.

"Their profession," he remarks, "does not make any great demands on the imagination; and moreover the mental effort expended upon its pursuit has no tendency to exhaust the mind. With medical men it is rather the machine, the body, than its moving principle, the soul, which wears itself out: *aliis inserviendo consumuntur, aliis medendo moriuntur*. The physician is exposed to all sorts of revolutions of his material life; his sleep is apt to be disturbed, his meals to be interrupted; his sensibility is often wounded by a constant spectacle of human suffering and distress; his life, in short, is a ceaseless travel through hot and cold, dry and wet; and at the end of all his anxieties and fatigues, his recompence is too often a miserable fee; and if it is sometimes given with marks of gratitude, this is quickly forgotten when health is restored!

Das ist ein Leben, das heisst ein Leben!"

From the preceding memoranda the reader will doubtless agree with our author, that he who desires long life, should pray to be neither a king nor a beggar;* "to have neither poverty nor riches;" not a pampering superfluity on the one hand, nor a pinched insufficiency on the other; and withal have not too much pity, nor too lively an imagination; lastly, *he should not be a physician.*

"This prescription," adds our author, "is infallible."

Influence of Ease and of Poverty on the Duration of Life.

The following brief table drawn up by M. *Benoiston de Chateauneuf* is more impressive on this subject than the most elaborate disquisition. According to his researches the mortality per cent. among the rich and poor may be estimated as follows:—

Age.	Rich.	Poor.
From 25 to 40 years	2,05	5,50
40 to 50 years	2,44	4,26
50 to 60 years	3,49	7,18
60 to 70 years	7,37	15,01
70 to 80 years	14,89	28,73
80 to 90 years	27,87 ...	0,00

It has been calculated that in Paris there does not survive one pauper person beyond 80 years of age; whereas, among the richer classes, there are not a few octogenarians.

Our author sums up his remarks with the following conclusions:—

1. That poverty exercises a directly injurious influence on the duration of life.

2. That at least 28 per cent. among the poor die from this cause before the fifth year of life, and even more than this proportion where fecundity exists among a population.

3. That however, when all other circumstances are alike, there is a rather smaller mortality among the poor than among the rich between the 20th and the 30th year of life.†

Lastly, that fewer die from poverty in an agricultural than in a manufacturing population.

We now proceed to another topic:—

Influence of Climate on the Duration of Life.

There has been considerable difference of opinion on this point among statistical writers. While *Casper* and *Süsmilch* assert that it is neither the climate nor the soil of the country which is inhabited, but only man himself considered as a collective being, that regulates the duration of life, M. *Moreau de Jonnés*—(a French academician who, our author says, has greatly *abused* statistics)—has distinctly declared that a cold and even a rigorous climate, especially in the neighbourhood of the sea, is directly favourable to the prolongation of life.

Let us briefly endeavour to ascertain how far ascertained facts bear out this assertion.

The mortality among the Icelanders has been estimated at one in every thirty-three of the inhabitants—a proportion which is somewhat less than in some districts of France and Spain, such as in the departments of Vaucluse and the Eastern Pyrenees, and very considerably less than that among the Russian-Greek population. It exceeds only by one or two per cent. the average mortality in the Prussian dominions, which would seem to be actually greater than that among the slave population of Havannah. But then the average duration of life in England, France and Belgium is considerably higher than in Iceland—by at least 10 years in the first, and 7 years in the latter two countries.

---

* Our author, in another part of his paper, remarks, that the average life of mendicants, if taken at 25 years of age, is nearly 55 years; whereas that of the kings of France has not exceeded 48 or 49 years, and it is almost as long as that of German physicians and of English poets.

† Our author attributes this somewhat unexpected result of his enquiries to the pernicious effects which flow from the facilities which the rich have of gratifying their passions, during the epoch when these are most vehement.

Again, to shew how little the mere influence of a cold climate, apart from other circumstances, can be deemed favourable to the prolongation of life, we may state that, whereas there is a mortality of one in every 25.8 of the Russian-Greek population, and the average duration of life does not exceed 21 or 22 years, the mortality in some districts of Switzerland, where the climate is quite as severe as in Russia, does not exceed one in every 49 of the inhabitants, and the average duration of life is nearly as high as 49 years—a ratio which exceeds the former by at least a double.

Then let us take an instance of two climates, strikingly opposed to each other—viz. humid and marshy Holland on the one hand, and sandy Brandenburg on the other. And yet, if we examine the bills of mortality in these two countries, we shall find that they exhibit a very marked approximation, the one to the other; as appears from the following table published in the inaugural dissertation by Casper and Wiskott.

The average duration of life is—

At the age of		In Holland,		In Branderburg,
0 years	....	34,5 years	....	30, years.
5 ,,	....	44,4 ,,	....	44,3 ,,
10 ,,	.. .	42,6 ,,	....	42,8 ,,
20 ,,	....	36,2 ,,	....	35,6 ,,
50 ,,	....	19,4 ,,	....	17,7 ,,
70 ,,	....	9,1 ,,	....	8,1 ,,

From these and similar data we may reasonably conclude, that temperate climates are most favourable to the duration of life, but that those, the rigour of which is excessive, may be to a certain extent overcome by human intelligence.

We do not however assent to the opinion of *Casper* and *Sussmilch* as to the utter nullity of the influence of climate; but, as to that of *M. Moreau de Jonnés,* it is utterly untenable. The error of the latter gentleman has probably arisen from his having confounded the general or average duration of life with the mere ratio or frequency of extreme longevity. Instances of this—extreme longevity—are more frequently met with in hot and in cold than in temperate climates. Every one may have heard of the number of very aged people among the inhabitants of Iceland, and some other cold islands. But it does not necessarily follow that the average duration of life is unusually prolonged.

Has the Duration of Life increased?

This is a question which is of no easy solution, in consequence of our almost entire want of accurate information on this subject in remote times. There are indeed two historical fragments, which may, in some measure at least, assist us in this enquiry. The first is from the writings of *Herodotus,* who, in treating of the kings of Egypt, says, "three hundred generations make six thousand years; for three generations are equivalent to one hundred years." Although it is by no means certain whether this expression is meant to apply to the generations of the kings alone, or to those of the Egyptian people generally, or to those of the Greeks, we must acknowledge that the figure mentioned by the old historian agrees very nearly with the medium duration of generations in modern times. M. *Villot* has estimated this in the case of the male population of Paris at 33¼ years, and M. *Quetelet* at 40 years in the case of both sexes in Belgium. (This latter estimate is acknowledged to be considerably too high).

The second fragment is from the works of *Ulpian,* who lived at the beginning of the third century.

He gives a table of the probability of life among the Romans, taken at different ages, for the purpose of making certain calculations. But its results being so widely different from those of any well-authenticated tables, it must certainly be confessed that no importance can possibly be attached to them.

According to the researches of *Marshall*, it would seem that the probable life among the inhabitants of London has increased by about seven years within the last century, and the average life, during the same time, by about five years: the latter being, in 1728—39, 25 years; and in 1820—29, 30½ years.

A still greater augmentation than this seems to have taken place among the inhabitants of Geneva, where life has gained, it has been calculated, nearly 40 years in the course of two centuries. This very rapid increase is however doubtless attributable, in part at least, to the cessation of the plagues and famines which used frequently to devastate this republic.

At Berlin also, the value of life has, it is calculated, increased by 4⅓ years in the course of half a century.

We must not forget to mention here the important discoveries of Mr. *Finlayson* on this subject.

This gentleman has found that the mortality throughout England has singularly diminished during the past century; but that this diminution has not been equal at all the epochs of life, nor to the same extent in the two sexes: for, while the mortality among youths and adult men seems to have remained nearly stationary for the last fifty years, that among girls and women has decidedly decreased.

Mr. Finlayson has also compared with great care the average duration of life in persons who had insured during the 17th and during the 18th centuries, and he has found that in the course of 96 years there has been a gain of

10 years	....	at the	age of	5	years.
9 —	....	—	—	10	—
9 —	....	—	—	20	—
8½ —	....	—	—	30	—
7 —	....	—	—	40	—
5 —	....	—	—	50	—
3 —	....	—	—	60	—

These results shew that the easy and affluent classes in England have during the last century made immense progress in what the Greeks would call *Macrobiotechnie*.

This progress however, has been, as indeed might be expected, much greater among the inhabitants of large towns than among the residents in the country. We may also add here, that the average duration of life in the whole human race will probably never exceed 33 years or thereabouts, and that it will need many ages of progress still to come, before even this ratio is attained.

Before concluding our remarks, we shall add a word or two on some of the causes which have probably operated in enhancing the value of life in modern times. Not to dwell upon the comparative infrequency of pestilential maladies, the *partial*—would that we were not obliged to use this epithet—subjugation of the small-pox, the superior cleanliness of our large towns, the numerous modes and appliances of relief to the destitute and sick, it may be reasonably believed that the improved condition of the healing art has contributed somewhat to the prolongation of human life.—*Bulletin Medical Belge.*

ON THE TREATMENT OF ENCYSTED GANGLIONIC SWELLINGS.

M. *Baudens*, one of the leading military surgeons in France, prefaces some remarks on the treatment of such tumors, by alluding to the remarkable occasional increase and decrease in the frequency of certain diseases, which cannot be supposed to be at all dependent upon atmospheric vicissitudes.

" There are," says he, " some maladies which seem to disappear entirely from the nosological catalogue for three or six months at a time, and again to make their appearance in groupes of four, five, or more at a time, without our being able to assign to such phases any epidemic cause. We may account for the occasional prevalence of such diseases as erysipelas, typhus, small-pox and so forth ; but no condition of weather can well be supposed to influence the frequency of *fractures, sprains, hydroceles, sarcoceles*, &c. such as during the last two years we have observed in this hospital, (at Lille)—at longer or shorter intervals of time, and sometimes in the number of five or six on one day of clinical admittance." This remark holds true of encysted swellings also, aneurysms, and many other surgical disorders.

M. *Baudens* then gives the following description of the mode of development of ganglionic swellings :—

" If the sheath of a tendon, which has been subjected to strong muscular efforts or to any prolonged compression, happens to give way at one point of its circumference, either spontaneously or from ulceration or from some other cause, the synovia escapes into the surrounding cellular texture, and a swelling, not unlike to an incipient aneurysm, follows ; and, according as there is a rupture or only a mere dilatation of the enveloping tissues, so is the swelling either circumscribed or diffused. It is more than probable that the bursa is in almost all cases merely dilated, and not ruptured ; as we know that the most successful practice in dispersing ganglionic swellings is to cause their contents to be effused into the adjoining cellular tissue. These contents, while still within the cyst, sometimes undergo considerable changes ; by either becoming thicker, and gradually acquiring a steatomatous consistence, or by hydatidiform nodules being slowly developed in the fluid. The latter change is often indicated by the tumor acquiring a peculiar crackling sensation on being squeezed between the finger, or when pressed on : this arises from the rubbing of these nodules, the one upon the other.

Treatment.—If ganglionic swellings form quickly, and especially if they be attended with pain and uneasiness, the application in the first instance of a few leeches, and subsequently of mercurial ointment, may suffice to dissipate them.

Of late years, M. *Baudens* has succeeded in dispersing the synovial tumor in almost every instance, when the disease has been more chronic, and has resisted these measures, by having recourse to acupuncturation, in such a manner that the contents become diffused in the surrounding cellular texture. When the contents of the sac are too thick to permit its ready escape in this manner, we should then use in place of the needle a cataract knife, which may be introduced readily under the skin, and with which the walls of the cyst may be freely divided in numerous directions. The admission of air into the interior of the sac is thus altogether prevented. The part should then be immersed in cold water for several hours, and firm compression be afterwards kept up by means of compresses and bandage.

This practice is very much preferable to the incision, or the extraction, of ganglionic swelling—the former of these methods being not unfrequently followed by most troublesome symptoms, and the latter being very unnecessarily severe. It is of great consequence to avoid the risk of severe inflammation attacking the tendons on which the ganglions have formed ; as their free movements are after such attacks almost always most seriously injured. When the ganglion forms under the transverse ligament of the carpus, it is sometimes necessary to divide this across, before a cure can be effected. Before however having recourse to this operation, we should give a fair trial to the gentler one of opening the sac freely under the integuments with a cataract-knife, as recommended above.

M. *Baudens* has repeatedly adopted the practice of rupturing ganglionic tumors by firmly squeezing these between the fingers, or striking them smartly with a book. He prefers, however, the plan of puncturing them with a needle, or with a small cataract-knife.—*La Lançette Française.*

CASE OF MILKY URINE, WITH ITS CHEMICAL ANALYSIS.

A lady, born in the Isle of France, observed in her twenty-fifth year, for the first time, that her urine was remarkably milky. This peculiar state continued for nearly three weeks, during which her general strength diminished very sensibly. From this period of life to the age of seventy-five, the urine was every now and then of a milky aspect, or glairous and viscid, occasionally becoming almost gelatinous, and not unfrequently having a good deal of blood mixed with it. Whenever this unnatural condition of the secretion was present, her strength and appetite decayed. When seventy-six years old, she left the Isle of Bourbon and visited France. For a twelvemonth previously, the urine had been natural, and her general health good. During the voyage to Europe, however, the water became thicker and whiter than it had ever been before, and her strength was much reduced. When she reached Paris, she had several inflammatory attacks on the chest. During these it was always observed that the urine was clear while the diet was low, and became milky, glairous and blended with blood, when the patient took any nourishing food.

From this time, her health became much more enfeebled, and the system was seldom or never free from a feverish irritation. Bark, steel, and various astringents were administered; but not with any success. More benefit was obtained from morphia than from any other remedy.

M. *Quevenne*, who carefully analysed the urine, has appended the following conclusions to the account of his experiments.

1. The urine exhibited none of the characters of milk except its whitish aspect; and, when examined with the microscope, no traces of fatty globules or of caseum were discoverable.

2. The white appearance of the urine in the present case cannot be attributed to the admixture of purulent matter, as the microscope displayed only a very few globules which could possibly be taken for those of genuine pus; and moreover the urine, when allowed to stand, remained quite opaque and homogeneous—which would not have been the case if there were any purulent admixture with it.

3. If we consider that the urine in this case exhibited under the microscope sanguineous globules, and also that the fatty matter blended with it was in a peculiar state of suspension or combination not recognisable by the microscope—a condition to which we find an analogous one only in the chyle—we are naturally led to the idea that this fluid, the chyle, had probably found its way into and become blended with the urine. In this way we can account for the superabundant secretion of fatty matter, and for the marked diminution in the proportion of the usual salts found in healthy urine.

These analytical conclusions agree well with the numerous observations reported by M. *Rayer* in his Memoir on the *Hæmaturia* of the Isle of France, and also with the experimental remarks of M. *Guibourt* on the case related in the Journal *l'Experience* for May, 1830. (Vide Medico-Chirurgical Review, July, 1839.)—*Journal des Connoiss. Medicales.*

Clinical Review.

TWENTY-FIFTH AND TWENTY-SIXTH ANNUAL REPORTS OF THE DIRECTORS OF THE GLASGOW ROYAL ASYLUM FOR LUNATICS, 1839, 1840.

WE hail the appearance of these Reports from various Lunatic Asyla with feelings of unmitigated satisfaction. They are at once the evidence of improvement effected in the management of the insane, and the guarantees of continued progress in the same direction. We shall draw attention to them upon fitting opportunities, and notice whatever seems to merit it.

1. In the first of the Reports before us, (the Twenty-fifth) we are informed that, of the patients whose treatment has, in the course of the year, been concluded by dismission or death, the cured amount to 47 per cent., the dismissed uncured to 38 per cent., and the dead to 14 per cent.

Several of the cures were highly satisfactory. For example:—one of the female paupers had been for seven years a patient in the Asylum. She had, in the course of that time, been several years subject to paroxysms of fury, and afterwards (in place of these paroxysms) to severe attacks of tic doloureux; but in the course of the last six months of her treatment, she recovered completely from all her ailments, both of body and mind.

To be able, say the Reporters, to arrest attention by any motive, or any impression sufficient to counteract delusion, is often the first symptom of convalescence, whether we choose to consider it as a cause or as a consequence; and in several cases it was not a little interesting to observe the means whereby a patient sometimes seemed to be aroused from his insane dream. In one case, in which a female patient had taken the most violent and groundless dislike to her family, the tidings of the death of a son in a foreign country, excited in her the desire to see her surviving children. This desire recalled all her parental affection, instantly sweeping from her mind her insane antipathies, and restoring her at once to right feeling and to reason.

Suicide.—The propensity to suicide existed in no fewer than 29 cases, *viz.* 12 males, and 17 females, all of them requiring no small degree of vigilance. The attempt at starvation is often persevered in with the greatest obstinacy, and compulsory feeding was resorted to in seven cases. It was remarkable that no fewer than six of these seven patients were females, probably because the principle of imitation operates more powerfully with them than with males; and whensoever the feeding apparatus is in any case employed, the use and object of it are unavoidably known throughout the ward to all the other patients who are capable of any degree of rational reflection. In one case the operation had to be performed twice daily, and sometimes oftener (for the exhibition of wine and medicine, as well as of food), during the long period of six weeks; in others, from a few days to two or three weeks. Some were speedily convinced of the folly of resistance, and resumed, in the course of a day or two, the natural use of their powers of swallowing.

Mortality.—The number of patients who died, and the denomination of the diseases which proved fatal, were as follows, viz.—

	Males.	*Females.*	*Total.*
Of Abscess	2	0	2
Apoplexy	2	1	3

	Males.	*Females.*	*Total.*
Bruises and Sores	1	1	2
Bronchial Inflammation	1	0	1
Chronic Bowel Complaint	0	2	2
Consumption	1	0	1
Exhaustion	1	1	2
Scarlet Fever	0	1	1
Water in the Chest	0	1	1
Total	8	7	15

Coercion.—" In connexion with other improvements in the treatment of the Insane, we, at an early period of our Institution, made it our especial study to render the means of coercion, when necessary, as gentle and as little irritating as possible; but some degree of personal restraint is in many cases indispensable, and howsoever gratifying the idea may be to the speculative philanthropist, the entire abolition of coercion is too often compensated by concealed severity. When we hear a vulgar and uneducated keeper boasting that, by a glance of his eye, or the turn of his finger, he can control a whole ward of the insane, we can guess pretty well how this seemingly mysterious power was acquired; and it would be well if those who visit madhouses would carefully study the countenances of the lunatics when the keeper approaches, and when he turns his back to the patient. An attentive observer might thus sometimes discover a strong and instructive contrast between the subdued and counterfeited expression in the one case, and the suspicious and revengeful scowl in the other."

There is much good sense in this. We observe that at some of our public institutions a great parade is made of the abolition of coercion. The gratifying fact is advertised in all the papers, and the public press rings with the humanity and skill of the doctors. But experience is yet wanting to confirm both, and to prove that a dangerous extreme has not been plunged into. Every body acquainted with the insane, is aware of the pernicious self-pollutions which too many are addicted to, and the injury both to body and mind which *they* must of necessity give rise to. We should pause, therefore, before we give our unqualified assent to the total, or nearly total, abolition of restraint, and wait for time to set its seal on the discretion of those who counsel it.

Divine Worship.—" In our last, as well as in numerous former Reports, we bore testimony to the goods effects of Divine Worship on the minds of the insane, and our further experience continues to warrant our former sentiments. In many instance, the personal and private, as well as public, ministrations of our worthy Chaplain have carried comfort and consolation to the minds of many of our patients, who are occasionally much troubled with distressing apprehensions on religious subjects. We subjoin, in his own words, a statement of the success which continues to attend his labours in the pulpit, and of the manner in which these labours are conducted:—' The exercises of Divine Worship, in which many of our patients have the privilege of engaging, are attended with the most beneficial results. This is evident from the deep interest they take in the discourses delivered to them, and the fact that these are the means of withdrawing their attention, for a short time, from their prevailing illusions. The sermons delivered in the chapel are adapted, as much as possible, to the peculiar circumstances of the audience. Everything that is conceived to have a tendency to agitate their minds is carefully avoided, and pains taken to present them with the most soothing and practical views of Divine truth. Two very important advantages, then, are derived to our patients from the institution of Public Worship;—it is of use in alleviating the malady under which they labour, and in strengthening and gratifying those pious feelings, from which (in their secluded state) they derive the greatest consolation.'"

II. It is stated in the second Report before us that:—the patients admitted, cured, and relieved, exceeded in number those of any former year since the opening of the Institution, while the proportion of deaths has been below the usual average.

Of the patients dismissed in the course of the year, the cured amount to 47.368 per cent.; the relieved to 27.067 per cent.; those removed before they had received the advantage of a full course of treatment, to 7.518 per cent.; improper cases, having, after due trial, been found to be harmless and incurable, to 6.766 per cent.; and the deaths to 11.278 per cent.

Among the cures, two were remarkable for the duration and obstinacy of the disease. One of these patients, at the date of his dismission, was fifty-five years of age, and had been under treatment for nearly ten years. Latterly, the paroxysms became less frequent and less violent; and before he was dismissed, he was subjected to a probation of nearly twelve months. No symptom of his malady having betrayed itself during this period, while, at the same time, he worked willingly and steadily at his trade, he was dismissed cured; and having for some time maintained himself and his family by his industry, he has since been engaged as one of the tradesmen of the establishment, and is now a steady, useful servant, and capable of taking charge of those patients who follow his own trade. The other, at the date of his dismission, was fifty-seven years of age. He had been insane for sixteen years, during only eight of which, however, he had been subjected to medical and moral treatment. In this case also, the patient underwent probation for nearly a year, during which time he betrayed no symptom of his former malady, and worked most diligently and cheerfully in the garden. When the period of dismission arrived, he left the house, of which he had been eight years an inmate, with the greatest reluctance, and begged most earnestly to be allowed to remain as a servant. From various circumstances, we found ourselves constrained at that period to refuse his request; but having maintained himself for about a month by his industry, and there being an opportunity of employing him in the house and grounds, he was, to his great joy, hired at a small rate of wages by the Superintendent.

These cases are highly encouraging to the friends of the insane, and tend strongly to show the erroneous nature of an opinion still entertained by some, that when the disease has lasted a certain time, it necessarily becomes incurable.

Cataleptic Ecstacy.—There have been no fewer than five cases of this kind in the Institution.

"In three of these, the disease was complicated with a mild variety of mania, accompanied with highly excited religious feelings. One case was peculiarly interesting. No matter how the patient was occupied when the fit came on, he suddenly assumed a statue-like posture, with the trunk slightly bent, one arm elevated, and the fore-finger steadily pointed, as if at an object; the eyelids opened to their utmost extent; the eyes turned up; the lips separated, and the expression of the whole countenance that of the most profound admiration, wonder or rapture. In this state the patient would remain a considerable time, totally unconscious of what was passing around. The whole appearance of these patients betrayed an intense concentration of thought on some hallucination, though we never could obtain any satisfactory explanation of the state of their minds while thus affected. In none of the cases during the fit, was there any unusual paleness, or flushing, or irregularity of the circulation, as described by some authors; and they could generally be easily roused by addressing them in a loud voice, or suddenly taking hold of them. Sudden noises, such as the falling of a chair, the slamming of a door, &c. made no impression on them. One of them, during his fits, was in the habit of repeating a series of doggerel verses, five or six consecutive lines rhyming together, and the matter consisting of exclamations, rapid questions, and short assertions, all expressive of intense devotional rapture. In none of these cases has the mind as yet become perfectly sane; and, in some, there is reason to fear that organic lesion of the brain has taken place."

There is one point insisted on by the Reporters which we cannot avoid alluding to. Most medical men must have deplored the infatuation of relatives and friends, and seen instances of deplorable results from their well-intentioned but injurious interference.

"After all delusions have vanished, and where there is no evident periodicity, a certain term of probation is required for the establishment of mental government, both morally and intellectually, in order to enable us, with any confidence, to pronounce the patient to be completely cured. In the course of the year, several patients were removed by their affectionate, but ill-judging relatives, notwithstanding every remonstrance, and, as we had predicted, were in a few days, one of them in a few hours, brought back to the Asylum in a state of complete frenzy. We cannot too strongly impress on the minds of the friends of the insane, that, if there be a return of a single delusion, moral perversion, or even sleepless night, so far from being cured, the patient is not even convalescent, but in imminent danger of a return of a paroxysm of his malady. We must no less strongly condemn what we have found to be a very common error, that of removing the patient, only for a short time, *by way of trial*, with a view to bring him back, if necessary, to complete his cure. We have, in many cases, both now and in former years, had to regret the interruption thus given to the proper treatment of the patient, leading generally to protracted, and not unfrequently, to incurable insanity."

Diet.—The following observations are interesting.

"The proper regulation of the diet of the insane, is a point of great importance. In most cases, especially in those of the poorer classes, who are often, when admitted, much debilitated and emaciated, we have found benefit from a diet rather generous and restorative; but we are well aware that even where there is no evident tendency to inordinate vascular action in the system, a degree of feverishness commonly succeeds a full meal. The pulse becomes accelerated, the face flushed, and the general heat of the body increased. Such effects of food are particularly remarkable in cases of lunacy, in which these and other well-known symptoms often indicate an increased determination of blood to the head. The frequent repetition of this state, tends to produce, or to exasperate a paroxysm of lunacy; and, ultimately, to terminate in apoplexy, or other fatal condition of the brain. While, therefore, we have recently adopted some changes in the rotation of our articles of diet, introducing (especially among patients of superior rank) a more gratifying variety of food, yet this is always done with careful discrimination. In general, where there is great excitability, the food must be in moderate quantity, and of the least stimulating quality. We have had many instances of patients who became quite unmanageable, if indulged with the smallest daily allowance of animal food, but who remained perfectly quiet and submissive, so long as they were confined to vegetable fare. In some cases, however, the pulse flags, the flesh wastes, and the strength fails, even while the maniacal paroxysms still run high; and we can neither reduce by evacuation, nor interfere with the appetite, by the use of those narcotic and nauseating drugs, which in other cases might safely and usefully be administered. In such cases, we have recourse to the abstraction of some of those other stimuli which often serve, in no small degree, to increase the excitation of the insane. In the highly excitable lunatic, the stimulating influence of light has long been well known; but the salutary effect of the abstraction of that stimulus, although only during the more active process of digestion, has, we believe, not been hitherto noticed. In several cases of the description alluded to, we have found, that if immediately after dinner, the patient be placed in a chamber from which all light has been carefully excluded, and thus kept in utter darkness for about an hour or two, the excitation occasioned by the stimulating effect of food, is greatly diminished, if not entirely subdued. The daily use of this very safe and simple means of treatment, has often had a durably beneficial effect, especially when aided by the influence of quietness, solitude, cooling applications to the head, and warmth to the lower extremities.

In some cases of lunacy the appetite is voracious, while in others, it is no less remarkably defective; and in the course of the year, no fewer than six of our patients utterly refused food. It is a point of no small importance, to decide whether the refusal of food be the consequence of delusion, or of the state of the digestive organs: but an attentive observer will generally have no great difficulty on this point, while a single trial of the operation of feeding will usually be decisive. In the case of one of the six patients alluded to, it was presently evident, that the patient was fast sinking, and therefore, unless for the purpose of occasionally conveying a little wine or other cordial into the stomach, any compulsory feeding would have been but of little avail. All our other cases were treated with our usual success. In several of them the patients resumed the use of their powers of deglutition after only one or two feedings. In one of these cases, however, we had occasion to feed for two months; in another, for the still longer period of three months; and thus not only sustaining the strength of the patients, but with evident increase of bulk and weight, and with even a tendency to corpulency. Suicide, by means of starvation, was the object in both of these cases; and of all the motives for abstinence, this is perhaps the most obstinate. The food given consists of nutritious fluid, injected into the stomach by a peculiarly simple and effectual apparatus.

One of these patients had for some time been observed to be very attentive in keeping the food comfortably warm at the fire, before the operation of feeding commenced, and to express no small degree of anxiety for the arrival of the operator. Taking advantage of this circumstance, one day immediately before the time of feeding, the patient was informed that an accident had befallen the apparatus, which unfortunately rendered it useless, and, as it was Sunday, when it could not be repaired, the feeding must necessarily be postponed till the following day. On hearing this very mortifying communication, the patient instantly seized the vessel containing the fluid, and presently swallowed the contents with avidity, continuing thenceforward to take food, whether solid or fluid, without reluctance. We have now had not a few years' experience of the use of our feeding apparatus, and while we feel gratified to learn that it has lately been adopted in other establishments, we are confident that it needs only a trial to evince its superiority over every other mode of compulsory feeding hitherto employed."

Occupation.—The Report is, on this head, as satisfactory as ever. But we have dwelt on the subject so frequently, that we do not think it necessary to advert to it further at present.

Intemperance.—The Reporters bear testimony to its deadly operations in leading both to insanity and death.

Mortality.—The number of the patients who died, and the denomination of the diseases which proved fatal, were as follows:—

	Males.	*Females.*	*Total.*
Of Abscess	1	0	1

	Males.	*Females.*	*Total.*
Apoplexy or its consequences	3	0	3
Chronic Bronchitis	0	1	1
Consumption	0	3	3
Contusions previous to Admission ..	0	1	1
Diarrhœa	1	1	2
Diseased Urinary Organs	1	0	1
Erysipelas	1	0	1
Exhaustion	1	1	2
Total	8	7	15

These Reports are very clearly and satisfactorily drawn up.

THE TWENTY-FIRST REPORT OF THE DIRECTOR OF THE WEST-RIDING OF YORK PAUPER LUNATIC ASYLUM.

FROM this brief Report, we extract the following passage bearing on two points which occupy the attention of medical men at present—the classification of the insane and coercion.

The patients are classified according to the divisions,—Mania, Monomania, Melancholia, Dementia, and Idiotcy. The Maniacs and Idiots are kept entirely apart from the rest, in a distinct part of the building. The Melancholics are not permitted to associate together, but are surrounded by those most likely to divert and cheer them; and when the weather will permit, are employed, the greatest portion of the day, in various occupations out of doors.

The instances of restraint are few; of the 201 male patients now in the house, only one is under confinement, three maniacal females are restrained, and two less violent partially so.

No one is placed under restraint, but by the immediate order of the Director, and as soon as the symptoms warrant their liberation, all restraint is removed; many instances have, however, been known of patients who, feeling a return of excitement, have themselves requested to be again restrained; a proof that when they could exercise a judgment, they were sensible how beneficial it had been to them.

To permit patients in a high state of excitement to keep up that excitement by constant muscular action, or knowingly to risk the lives of both patients and servants, would be treatment having no more of humanity in it than the name; and it requires but little practical acquaintance with the subject at once to detect its absurdity.

The result of many years' careful attention to this subject, has led to the conviction that a mild and judicious restraint can never be supplied by any "surveillance." The presence of any individual is of itself sufficient, in many instances, to keep up the excitement; for it is a truth but too general that maniacs regard all around them as enemies, and exhaust themselves in vociferation, and attempts at violence; whilst force on the one part, and resistance on the other, keep up the unequal contest, ending sometimes in bruises or broken limbs.

No servant is permitted to strike a patient under the penalty of losing his situation, nor is any harsh language allowed on their part, but a continued exercise of forbearance and uniform good-will is required from them; it is, therefore, of vast importance to retain experienced servants in the charge of the insane. A change can seldom be made in the attendants without disadvantage to the patients; strangers are more easily irritated by the offensive language, and sooner intimidated by the threats and violence of those entrusted to them and, on the other hand, the insane are especially acute in discovering the exact capabilities of their attendants, and in making use of such discovery to their own, no less than to the disadvantage of others.

An American's Account of the Lunatic Asyla in Europe.*

Dr. Pliny Earle, during a recent tour in Great Britain and on the Continent of Europe, visited thirteen Asyla for the Insane, and on his return to America, published, in our contemporary of Philadelphia, a brief sketch, or rather reminiscence of what he had observed. Nations, like individuals, do not know themselves. They should listen to what strangers say of them. We shall not follow Dr. Earle into every madhouse, nor transcribe every remark. We shall merely pick out what may serve to instruct or to amuse.

County Lunatic Asylum at Hanwell.

The most prominent characteristic in the internal economy of this institution, is the amount of labour performed by the inmates. Perhaps no other Asylum of the kind can furnish so great a per centage of patients devoted to useful occupations. Of the *six hundred* who were there in 1837, more than *four hundred* were thus employed, most of these were incurables.

The Pauper Lunatic Asylum for the West-Riding of York at Wakefield.

The number of patients in the Asylum during the Summer of 1837, was 334, of whom a small minority were women. Fifty or sixty of the men labour, regularly, either in the manufacture of the articles above mentioned, in gardening, or in some mechanical trade.

" Nearly two hundred dollars per annum is paid for tobacco, which is also divided among the labourers, each being entitled to a weekly ration of one ounce. Many of the patients, as we passed through the wards, begged us for tobacco, or for money to purchase it with. One of them, after having thus played the mendicant, put into our hands a piece of cloth, upon one side of which he had written, in large letters, '*Millennium. Green, blue, and yellow united.*' And upon the other, '*Victoria* 1*st, July* 28*th*, 1837. *Virgin Queen of Peace. Amen. Aquila.*' It will be perceived from the date, that this was but a short time subsequent to the accession of Victoria to the throne of Great Britain. The universal popularity which the youthful queen enjoyed, at that time, among her sane subjects, seems to have been participated also by some of those who were insane. And this poor infatuated maniac beheld the 'green, blue and yellow,' the insignia of the different political parties of the realm, united through her means, and hence the consummation devoutly to be wished, the immediate advent of the millennium! 'Eh, eh,' said he, after I had read the above, and, as he spoke, he looked up into my face with a piercing glance and a most significant smile, 'do you know what Aquila signifies in English?' Being answered in the affirmative, 'Well, Sir,' he continued, '*I* am the Eagle.'

The number of patients admitted to treatment in this Asylum, from the time it commenced operation, Nov. 23d, 1818, to January 1st, 1837, was 2,224, viz.

	Males.	Females.	Total.
	1,150	1,092	2,242
Of whom there have died	420	289	709
" " " been discharged	560	664	1,224
" " " are remaining	170	139	309

---

* American Journal of the Medical Sciences, Nov. 1839.

The total number of cures was 991, equivalent to $44\frac{1}{5}$ per cent. The number relieved, but not cured, was 233. The deaths are equivalent to $31\frac{6}{10}$ per cent.

Dr. Earle gives a short table illustrative of the benefits of treatment during the acute stage of insanity, and of the disadvantages of delay.

	Admitted.	Cured.	Died.	Discharged not cured.	Remaining.
1st. Within 3 months of the First attack,	682	382	163	233	309
2nd. " 12 " "	409	212	149		
3d. Between 1 and 30 years from "	516	58	265		
4th. Those who had previously been insane and confined in this Asylum,	288	339	132		
5th. Those who had been previously insane but not treated in this Asylum,	347				
Total	2242	991	709	233	309

Of the 1st division there were cured, 56.01 per cent., and 22.9 per cent. died; of the 3d division 51.83 per cent. were cured, and 36.43 per cent died; of the third, 11.2 per cent. were cured, and 51.35 per cent. died; of the 4th and 5th included together, 53.38 per cent. were cured, and 20.79 per cent. died.

The Retreat near York.—Dr. Earle speaks of this in high terms. After describing the building he says,—The classification of the insane is founded, principally, upon their ability or willingness to pay for the accommodations afforded. There are four classes, in the lowest of which the price is fixed at *four* shillings, sterling, per week, while in the highest it varies from about *twenty* to *eighty* shillings. Those who pay the price last mentioned have two rooms, elegantly furnished, and a special attendant. System and neatness prevail in every department, and elegance is added to that of the class last mentioned. He adds, in England, as in the United States, the officers of the Lunatic Asylums complain of negligence on the part of the friends of insane persons, in omitting to place them under their care until the disorder has assumed a chronic character, and, consequently, the probability of a cure exceedingly diminished. In order, if possible, to remedy this evil, fraught, as it is, with consequences of so fearful a nature to the unfortunate sufferers, the directors of the Retreat have ordered that an abatement of four shillings per week during the first year of the patient's residence in the Asylum, be made from the expenses of those who enter within six months of the first decisive symptoms of the dreadful malady.

It appears that, up to 1837, the cases in this celebrated establishment were as follows:—Of the patients seen during the first attack and admitted within three months of its commencement, are equal to 79.7 per cent.; of those between 3 and 12 months, 43.9 per cent.; of those of the second attack, and whose disease was less than 12 months' duration, 59.4 per cent.; and of those of more than 12 months, 25.8 per cent. The cures of the whole equal 46.5 per cent. and the deaths 22.2 per cent.

York Lunatic Asylum.—The number of insane in the Asylum, in the summer of 1837, was 170. There are accommodations for 200. The patients are divided, as in the Retreat, into four classes, the principle forming the basis of classification being the same as at that asylum. Among the amusements permitted are cards and billiards.

The number of patients admitted to this Asylum from the time of its going into operation, in November, 1777, to October 10th, 1814, was 2635. Of these there were discharged, either cured, improved, or at the request of friends and guardians, 2133. Of the remainder, 399 died, and 103 remained in the Asylum at the latter date. The deaths during this period were equal to 16.8 per cent. Again, from October 10th, 1814, to June 1st, 1837, a period of 22 years, 4½ months, there were 1131 admissions, which, together with the 103 remaining at the former date, makes a total of 1234. Of these there were 387 cured, 224 improved, 247 removed by their friends, and 217 deceased. There were remaining in the Asylum, at the date last mentioned, 83 men and 76 women, a total of 159. Excluding this 159, as being still under treatment, we have for the cures 36 per cent. and for the deaths 20 per cent.

At this institution, any servant who strikes or otherwise mal-treats a patient is dismissed. If a patient escape, the expense of retaking him is defrayed, either wholly or in part, at the discretion of the committee, by the servant having charge of him.

Let us turn to the Continent, and contrast their mad-houses with our own.

Asylum at Amsterdam.—The building is of somewhat antique construction. Each ward, like those of most hospitals for the sick, is without subdividing partitions, the beds being arranged upon either side, and, in this instance, rather too compactly. The wards are, moreover, like those in the hospitals for the sick in Amsterdam, in that they are two stories in height, a platform, or gallery, running around, above the beds, between the first and the second story. This is used as a place of promenade for the patients. There are seven wards, four for women and three for men. The courts devoted to the use of the patients, and of which there is but one for each sex, are very small, and being without shrubbery, flowers, or even green-sward, have the naked and forbidding aspect of a prison-yard. Natives of the city of Amsterdam alone, are admitted into this Asylum. The patients are mostly paupers, or subjects of charity. There are six beds, in small, decently furnished rooms, which are intended for pay patients. The number of patients, in July, 1838, was 157. Of these 69 were men, and 88 were women. A large majority of them were incurable. "During the two years and eight months ending in July, 1838, there had been admitted 85 men and 78 women, or a total of 163. In the same period, 27 men and 29 women had been cured, and 40 men and 37 women had died. As means of coercion and punishment the hands and feet of patients are sometimes fastened, and the camisole, the straight-jacket and imprisonment are resorted to. For the last mentioned purpose there are six dungeons, constructed three upon either side of a small apartment. One of these was occupied, at the time of my visit, by a woman, who was naked, raving and filthy."

A pretty place this Amsterdam Madhouse. A radical reform is promised—not before it is wanted! There is in it neither labour nor amusement. "A few of the women were either knitting or sewing, but the men, without exception, were unoccupied, lying on the floor, the ground, or the beds, standing in the stupidity of dementia and idiocy, or walking to and fro, raving with the unbridled fury of madmen." No wonder! This is just the place to make a man mad.

Asylum at Utrecht.—Dr. Earle speaks favourably of this. "The bedsteads," he says, "for the most maniacal patients, and such as are not the most cleanly, are somewhat different from any others which I recollect to have seen. They are made of boards, in the form of a child's crib, though deeper, and the bottom is concave or descends in every direction to the centre, where there is an aperture for the escape of water. There is a common sitting-room for each class of the inmates. The number of patients, at the date first mentioned, was 94, that of the two sexes being about equal. They are divided into three classes, the basis of division being the sum paid for entertainment."

The patients resort to reading, writing, drawing, music, cards, billiards, chequers or draughts, and some other games, for amusement. There is a library intended for their use. The billiard-table, a large and handsome one, was made by two of the former patients. In one of the men's rooms several patients were occupied in drawing and reading. Yet the Asylum of Utrecht still retained some traces of the barbarous olden time, for, when necessary, the camisole or the straight-jacket, fetters, the douche and the dungeon, are put in requisition as means of punishment. The stream of water forming the douche is but one-fourth of inch in diameter, while those of Salpêtrière and Bicêtre, at Paris, are about seven-eighths of an inch. The quantity of water flowing from the latter must consequently be nearly twelve times as great as from the former. There is but one bathing-tub belonging to the establishment, but the accommodations in this respect are about to be increased.

Asylum at Antwerp.—There is not much to be admired in this. The building, composed of brick, is very old. It is but two stories in height and encloses several small courts, which " blossom as the rose." The doors of the dormitories are still fastened with huge bolts at top and bottom. The rooms referred to are arranged on both sides of very narrow passages leading through each ward. There are 24 cells for the raving maniacs, 12 for those of each sex. These are small; the wainscoting is of wood, in order to diminish the danger of the patients injuring themselves against the walls; and each contains no other furniture than a bed. These beds are low, made of plank, and fastened to the walls. The mattrasses, throughout the building, are mostly of straw; those of the convalescent and of the pay patients are, however, of better materials. In the infirmary the beds are very good. A few years since the proportion of incurables was very large; but the Grippe, which prevailed so generally, in an epidemic form, throughout the west of Europe, during the winter of 1836-7, carried off many of them, and, subsequently, most of those who had been attacked by it and recovered, became victims to phthisis pulmonalis. Each class of patients has a court and a common hall, in which they spend most of their time. The halls are warmed by stoves, which are surrounded, at a few feet distant, by a strong reticulated wire fender. The dormitories, or private rooms of the patients, as well as the cells for the furious, are not furnished with the means of being warmed. This is to be remedied. Both labour and amusement are very imperfectly employed.

La Salpêtrière.—This vast asylum for the poor, this pauper-village, if the term be admissible, was established by Louis XIV. in the year 1656. It is devoted exclusively to females, for whom it contains about 4500 beds. It is in the hospital of this extensive establishment that the celebrated Cruveilhier has collected most of the materials for his elaborate and beautiful works upon pathological anatomy. The department devoted to the insane is, perhaps, the most extensive in the world, the number of patients usually exceeding 1000. The approximate number of admissions, per annum, is 500, that of discharges 300, and of deaths 200. The cures are equal to 33¼ per cent. of the whole number admitted. Though Pinel here introduced those ameliorations in their treatment which should induce madmen to raise a monument to his memory, the Institution does not appear to be quite *au niveau* of the best. They are now, at Esquirol's suggestion, making all their new buildings but one story in height.

Le Bicêtre.—The " hospice," or pauper Asylum of Bicêtre, is in a southerly direction from Paris, about two miles from the walls at the barrière de Fontainbleau. It is for men alone. Its extent is less than that of La Salpêtrière, the number of inmates being about 3000. The department for the insane is proportionally smaller. The number of patients in May, 1838, was 760. The average number of admissions, annually, is, for the insane, 360; the imbecile 40; that of discharges of the former, per month, from 12 to 15; the deaths about the same, and the cures from 7 to 8. The proportion of deaths to the whole number admitted is as 1 to 6, or 16.66 per cent. The medical care of the patients is confided to Drs. Ferrus and Pinel.

The douche is employed here, and we should suppose, from Dr. Earle's account of it, with little mercy. It gives us no great opinion of Dr. Pinel's practice to find him trying, literally, to drive a notion out of a madman's head, by means of it. We have not room for the scene, which is painted humourously enough by Dr. Earle.

Asylum at Charenton.—The Médecin en Chef here is the venerable Esquirol. It includes many edifices, which have been erected at various periods, and extensive gardens and promenades, which extend to the summit of the hill upon the declivity of which it is located. The section for men is composed of four courts, of which three are planted; three infirmaries; one ward (salle) for patients of a suicidal propensity; one dormitory; one gallery and six corridors, into which open the doors of the several rooms; one bathing room, and six rooms where the patients assemble. These last mentioned can be heated. The section for women has a garden, four planted courts, two infirmaries, one ward for women disposed to commit suicide, two bathing rooms, seven dormitories, six galleries and corridors into which open the doors of the apartments, and five rooms in common, which may be heated. An extensive additional department for females, combining most of the modern improvements, was erected about ten years since, and first occupied in 1829. Dr. Earle speaks very highly of *it*. There is a parlour in the Asylum, in which those patients the state of whose disease renders them admissible, assemble every evening for social intercourse. This contains many arm-chairs, several card-tables, and a piano-forte. A room having tables for billiards, is devoted to that amusement. The bathing room of the new department for females contains ten copper tubs, separated from each other by curtains, and each supplied with a cover which may be used in case of necessity. The number of *attachés* to the Asylum is 170.

The number of admissions, from the establishment of the institution exclusively for lunatics, in 1797, to the end of the year 1833, is 5972. The following list exhibits the same number divided in the proportion that the patients were received in several different epochs.

From 1797 to 1802	202
1802 " 1805	435
1805 " 1817	1007
1810 " 1815	722
1815 " 1825	2049
1825 " 1834	1557
Total, ...	5972

Previously to 1815 the number of each sex was not designated, but from that year to 1825 there were 1245 men and 804 women; and from 1825 to 1834, 932 men and 625 women.

Dr. Earle enters into a number of statistical calculations, for which we have not space, and which, in fact, are mainly taken from Esquirol's book. The average number of cures, per annum, was, for men, 30.32 per cent; for women, 39.13 per cent; and for both sexes, inclusive, 34.72 per cent. The average of deaths was, for men, 43.61 per cent; for women, 22.07 per cent; and for both, 32.84 per cent.

A variety of circumstances on which it is unnecessary to enter will account in some degree for the high ratio of mortality.

Asylum at Milan.—Saint John's Hospital, at Milan, is, as is well known, one of the most extensive institutions of the kind in the world. It is probably exceeded by none. The principal edifice appertaining to it is within the city, but the department for the insane is without the walls, about a mile distant from the Porta Tosa. It encloses large courts, but those which are devoted to the use of the patients are chiefly external to it. The wards are very large, some of them consisting of a hall, of ample width, running the whole length, and, beside it, two or three dormitories, each containing numerous beds. In others there are dormitories upon both sides of a narrow passage. The rooms are all lofty and well ventilated. In those where a fire is required, the stove is placed in the middle of the room and covered on all sides with bricks and surrounded by strong wooden frames or fenders. The beds for the furious have confining rings and straps at the foot and the sides, like those in many other Asylums. The mattrasses are made, some of straw, some of wool, and some of hair; and the beds and linen are as neat, though not so elegant, as those in any institution, Dr. Earle has visited. In some of the dormitories metallic *pôts-de-chambre* are fastened by straps to the bedsteads. In the third story of the department for women there is a ward consisting of a suite of small rooms, each opening from a narrow passage. The bed in each of these is beneath the window, at the extremity opposite the door. Beside it, in the corner, is a stool of convenience, communicating with a balcony on the outside of the building, where a servant can attend to it without entering the room.

One ward in the department of each sex, in the Asylum under notice, is devoted to convalescent patients. In these they remain forty days, previously to leaving the Asylum, for the purpose of confirming a cure. A horizontal jet, in which the water is thrown, with considerable force, completely across the room, is intended for a similar purpose as the douche. Being thus arranged it may be more easily applied to the various parts of the body.

The number of patients, in Nov. 1838, was 420, of whom 215 were men and 205 women.

Manual *labour* is pursued to a considerable extent both by men and women. The only means of amusement are a swing and a "giustra." The latter is so constructed that four, or, indeed, eight persons may turn horizontally in a circle, being situated at the extremities of two beams which cross each other at right angles, in the centre. These are in the principal court occupied by the men. The court is shaded by rows of sycamore trees, with seats fastened to the ground.

Asylum at Venice.—A large edifice belonging to the civil hospital. It is three stories in height, and entirely surrounds a court about 100 feet square. A corridor passes around this court, furnishing shelter from both sun and rain. In November, 1838, this Asylum contained 230 patients, all of whom were women. Upon the island of San Cervilio there is another establishment, for the men, of whom the number varies but little from that of the women. The patients at the Asylum for the women are divided into six classes, according to the species of insanity. These classes are not kept exclusively separate; on the contrary, some individuals belonging to every one of them may be found in the same ward. The colour of a strip of cloth attached, as an epaulette, to the shoulder of each patient, is a mark by which those belonging to the several classes may be identified. The classes are, 1st, *mania*, distinguished by a *red color*; 2d, *monomania*, distinguished by *deep blue*; 3d, *melanconico*, by *green*; 4th, *idiotismo*, by *orange*; 5th, *stupidita*, by *light blue*; 6th, *demenza*, by *yellow*.

The *third story* is a suite of three rooms, called *Sicurezza*. They contain about 50 beds, all of which were occupied. The bedsteads are made of plank, similar in form to those at the Asylum at Utrecht, but differing from them, in that the bottom is a rack, thus permitting water to escape in all parts. A large box or trough is placed beneath each, to preserve the cleanliness of the floor. The patients in this department mostly lie upon loose straw, which is covered by a blanket. Many of them were confined by having their arms fastened to the sides and their feet to the foot of the bedsteads. This does not say much for Venice!

Asylum at Malta.—About 1 in 900 of the population of Malta is mad. The asylum is at Floriana, in the suburbs of Valetta—an old and incommodious building, containing about 90 patients, 40 men and 50 women.

Manual labour has been introduced—not so amusement, nor even reading and writing! "Whenever," says Dr. Earle, "bodily restraint is necessary, the camisole or straight-jacket is called in requisition. The pattern of this garment of coercion, used in this Asylum, is, in my opinion, an improvement upon all others which have come under my observation. Its principal peculiarity consists in two bands, one upon either side, attached to its lower border and passing around the legs. The whole garment is thus kept more effectually in its proper place. The patients have ever been, and still are, mingled together, irrespective of stage or intensity of disease." We cannot say much for our island of Malta.

Asylum at Constantinople.—A hospital adjacent to the mosque of Suliman is devoted exclusively to the insane. There, none but men are admitted; the women, according to the Turkish custom, as well as in conformity with the precepts of the religion of Mahomet, being kept in private seclusion. The building is but one story in height, and, like the cloisters of many Gothic cathedrals, and the khans or caravanseras of Turkey and Natolia, completely surrounds a central court. With our author's account of what he saw here we conclude.

"We passed along the corridor to the first window. From between the bars of the iron grating with which this was defended, a heavy chain, ominous of the sad reality within, protruded, and was fastened to the external surface of the wall. It was about six feet in length, the opposite extremity was attached to a heavy iron ring, surrounding the neck of a patient who was sitting, within the grating, upon the window seat. We entered the room and found two other patients, similarly fastened, at the two windows upon the opposite side of the room. It was a most cheerless apartment. A jug to contain water, and, for each of the patients, a few boards, laid upon the floor, or elevated three or four inches, at most, and covered with a couple of blankets, were all the articles of comfort or convenience with which, aside from their clothing, these miserable creatures were supplied. Although in the latter part of December, they had no fire; nor were the windows glazed, but close shutters attached to each, rendered it possible measurably to shield the inmates from severe weather whenever it might occur. The length of the chain of each patient is barely sufficient to enable him to lie down upon his comfortless bed of boards and blankets. Leaving this apartment, we proceeded successively to the others, twelve or fifteen in number, in all of which we found the patients in a very similar condition to those whom we had first seen. There was but one who was not chained. He was an elderly man, though still retaining much of the vivacity of earlier years. His long and profuse hair and beard were nearly white, and his complexion very delicate. He was formerly a priest of the Islam faith. He has been deranged and confined in this place nearly fifteen years, during which time he has thrice broken the chain with which he was secured. He is now alone in his apartment, within which no one is permitted to enter. He talked and raved incessantly, threatening to kill those who were making him their gazing stock.

Like those in the apartment first mentioned, all the patients, with one exception, were without fire. The person forming this exception was one of the most hideous of undeformed human beings. He has been in the Timar-hané, as this Asylum is called by the Turks, more than forty years. His hair and beard, both naturally abundant, curly, and black as ebony, appeared as if they had not been cut or combed since his entrance. They nearly concealed his face, and the former hung in a profusion of literally 'dishevelled locks' about his neck and shoulders. His head would have been a *nonpareil* for an original to the figure of Cain, in David's celebrated picture of 'Cain meditating the death of Abel.' He lay crouched upon all-fours, resting upon his knees and elbows, and holding his head and hands over a *manghale* of living embers."

The other patients appear to enjoy pretty good health. A physician attends them regularly. There is a person who has the charge of supplying them with food, and they receive considerable attention from those who visit them, and give them articles of food, money, tobacco, and fill and light their *chebouks*.

PENNSYLVANIA HOSPITAL.

REPORT ON INJURIES OF THE HEAD.*

THE Report in our American contemporary from which we take the following cases, is by Dr. Kirkbride, a gentleman who frequently lays before the public the most interesting cases in this Institution.

Injuries of the Head are so varied in their character, and so uncertain in their results, that the cases can scarcely be too much multiplied, or the data, from our reasoning and our practice too ample. We seldom, therefore, lose an opportunity of noticing such cases as seem to carry instruction along with them.

CASE 1. *Compression of the Brain from large Effusion of Blood—Rupture of the Middle Artery of the Dura Mater, without Fracture of the Skull—Death.*—A.C.M., ætat. 18, while engaged at his occupation as a carpenter, fell from the third story of a house on the 15th of June, 1833. He alighted directly upon his head, in a fire-place in which were small pieces of brick. He was rendered completely insensible by the fall, and was taken to the Pennsylvania Hospital, forty minutes after the occurrence of the accident. At that time his skin was warm—pulse full and strong—his face flushed—pupils dilated—breathing stertorous—several small incisions existed in the scalp, produced by the rough bodies upon which he had fallen, but no evidence of fracture or depression in any part of the cranium. A vein was opened in the arm, and until twelve ounces of blood were drawn, no change took place in the pulse; it then began to sink and the aperture was immediately closed. He died thirty minutes afterwards.

Dissection, six hours after death.—All the upper portion of the scalp, in which were found the wounds mentioned above, was elevated by the effusion of full half a pint of blood between it and the bone. Beneath the cranium, and between it and the dura mater was found ℥viij. of fluid blood. Under the membranes, in the ventricles, and at the base of the brain was not less than ℥xvj. of effused blood, also in a fluid state. The middle artery of the dura mater was ruptured.

CASE 2. *Concussion—Bleeding from the Ear and Nose—Convulsions—Recovery.*—L. T., aged 6, fell at 8 p.m. July 12, 1838, a distance of five or six feet, striking his head upon a block of wood lying in a cellar. He was rendered insensible by the fall, but spoke some minutes afterwards. He was bled twenty minutes after the accident to the extent of eight or nine ounces; after which he appeared prostrated—vomited, and had a convulsion.

---

* The American Journal of Medical Sciences, Nov. 1839.

9 p.m. There was a contusion and swelling over the left parietal protuberance—but no wound of the scalp, nor could any fracture or depression of bone be detected. His pulse was feeble, 100; skin cool and pallid; his pupils were somewhat dilated; he had bleeding from the ear and nose; swallowed drink, and although he did not speak, appeared to recognise his father when addressed by him. During the visit he vomited his undigested supper, mixed with blood, and soon after had a violent convulsion. His extremities were rigid, and spasmodic action of the eye-lids and mouth continued for several minutes. His respiration at one time appeared almost stertorous, and the pupils of his eyes were, for a period, noticed to be strongly contracted. A stimulating enema was given—sinapisms applied over the stomach and on the legs, with heat to the extremities and ice to his head. After this he slept soundly, but seemed to feel cold on the head. At 11 p.m. the pulse was 100, quick, with more strength; skin warm; pupils contracted. ℞. Calomel gr. vj.; Mist. neutral. with antim. tartrat. Ice continued to head.

The patient slept that night, but could be roused, and vomited several times after drinking. On the 13th, the pulse 90—pupils natural—skin warm—bowels not open. *A stimulating enema, ice and antimonial mixture to be continued.*

14th. Can converse—some irritability of stomach—scarce any fever.

No further symptom. On the 21st he was discharged. He afterwards remained well.

CASES OF COMPOUND FRACTURE OF THE CRANIUM.

1. *Compound Fracture of the Skull, with Depression—Recovery, without an Operation.*—W. R. aged 9, at 7 P. M. June 24, 1836, fell 8 ft. striking the right side of his head upon the edge of an iron furnace. Some minutes afterwards, he was heard to cry, which alarmed his family. In an hour, Dr. Kirkbride saw him in consultation with Dr. Perrine. He then was rational and answered questions properly. He vomited the undigested contents of his stomach—complained of the pain of the wound, and resisted strongly while his head was being shaved. His pulse 80, regular, rather quick and weak—pupils natural—he was disposed to dose, but was always roused without difficulty.

On the right side of the head, two inches from the mastoid process, anteriorly and superiorly, was a wound, three-fourths of an inch in extent, from which blood continued to ooze. Upon separating the lips of this wound, a portion of denuded bone was observed, and a fissure with depression of a fragment of bone on its lower side. With the finger, this depressed portion was readily traced, it was one inch and three quarters long and nearly as wide;—the depression at the fissure, was of the thickness of the bone, and at the other edge was on a level with the service of the cranium. A small wound also existed near the lower edge of the fragment, but it did not penetrate to the bone. As there were no symptoms whatever denoting compression of the brain, it was determined to resort to a rigorously antiphlogistic treatment and not to operate, at least, until the occurrence of other indications for that course. *V.S. ad ℥vj—calomel purge—ice.*

Next day, the pulse was 80, and until the 27th, he may be said to have had no symptoms. On that day, there was more tenderness around the wound, and twenty leeches were applied. On the 4th July, he was out of bed—on the 11th, the wound was healed. He continued well afterwards.

2. *Compound Fracture of the Skull, with loss of Cerebral Substance—Rationality for several days—Death from Phrenitis.*

J. H. aged 28, a labourer, admitted Jan. 16, 1837, at 3 P. M. At 11 o'clock the same morning, he had received a kick from a horse upon the frontal bone immediately above the right eye. He was stunned for a short time—had considerable hæmorrhage, but no vomiting. Upon his admission his skin was cold and pulse feeble; he was rational, spoke of the occurrence of the accident, and noticed remarks made upon the severity of the injury. Small pieces of bone were removed through the opening of the scalp, which was nearly two inches in extent, and through this a much larger portion of bone appeared to have escaped before he reached the hospital; portions of the cerebral substance had passed through the torn dura mater, and the finger could be introduced without difficulty into the cerebrum. The eye of the injured side could not be seen from the great effusion which prevented its being opened; the pupil of the opposite side was natural; there was no distortion of the features, nor paralysis of the extremities.

Next day, the face was a little flushed, and he had headache; the pulse 60. In the night of the 18th, he was restless and would walk about the ward. On the 19th, his pulse was 65. He recollected all.

20th. More restless; tossing about the bed; pulse quick, 90; face flushed; skin hot and dry; tongue covered with a whitish fur, and inclined to dryness; the pupil of the left eye is natural, but the expression is changed; pain in the head more severe.

21st. Very restless during the night and delirious; pulse 120, quick and feeble; skin cool, inclined to moisture; respiration 40; sanious discharge from the wound; pupils slightly dilated; no paralysis.

After this he gradually sunk, and died at eight P. M. of the 23rd.

Dissection.—Head only examined.—The right orbital plate of the frontal bone broken up, and portions of it still upon or imbedded in the brain; the ethmoid, and the wing of the sphenoid also fractured; the zygomatic process of the temporal bone broken and loose. Two openings, admitting the finger, existed in the dura mater, and a fragment of bone three-fourths of an inch long was found nearly one inch from the surface of the cerebrum; four other pieces of nearly the same size were also found in the substance of the brain or immediately upon it at some distance from the softened portion. On the *right* side, both surfaces of the arachnoid were covered with a tenacious pus, so as to completely hide their proper surface. This coating extended to the posterior part of the cerebrum. No pus in the ventricles, which contained two ounces of fluid. The brain, at the seat of the injury, two and a half inches in extent, by one and a half in depth, was softened so as to form a bloody pultaceous mass. The pia mater injected; scarce more than the usual quantity of red points in other portions of the cerebrum. On the *left* side the membranes and substance of the brain were nearly normal in their appearance.

3. *Epilepsy after the use of the Trephine for Compound Fracture of the Skull.* R. B., aged 45, had resided in the State of Ohio for a long period, and fourteen years since was injured by a tree falling upon him and fracturing his skull so severely, that he underwent the operation of trephining, and had a number of pieces of bone removed, one of which was one and a half inches by three-fourths of an inch in extent. This space is filled up by ligament, and there exists a depression so striking as to arrest attention, upon the most careless examination of his head. He recovered from the operation in a few weeks, but since that time has been subject to epileptic fits, although his health in other respects is good. The fits recur at irregular intervals, but come on with great certainty after an unusual indulgence in drink.

Dr. Kirkbride, in some observations which he appends to these cases, observations which have chiefly reference to the use of the trephine, laments the discrepancies of opinion that still obtain with regard to it, and attributes them in some degree to surgeons trusting more to their memory than to facts.

Spirit of the British and American Periodicals, &c.

Pressure in Cases of Chronic Hydrocephalus.*

Mr. Barnard, surgeon to the Walcot Dispensary, doubts whether hydrocephalus is ever idiopathic. He seems to be of opinion that there is inflammatory action in the first instance, the hydropic effusion being an effect of it. Be that as it may, when the head begins to enlarge, an opposite condition, one of weakness and relaxation, has commenced, and a different method of treatment becomes necessary.

Mr. Barnard observes:—"The first idea which led me to adopt the peculiar plan of treatment which shall be detailed, was from observing some adults with heads of such a size as could have been caused by no other than hydrocephalus in infancy.

It occurred to me at once that, although we possessed no cure for the disease, nature, amidst her curious arcana, did; and upon enquiring minutely into the history of some of these cases—and one particularly in the progress of cure—I found that it was nothing more nor less than a comparatively early union of the bones of the head, thereby forming a natural and most efficient bandage, commencing the process of compression, which I, by artificial means, propose." The principle on which he acts in these cases is, to render that support to the parietes of the head which seems to be altogether wanting, and which nature evidently points out as the only remedial measure with any chance of success.

The following is one of six cases related by our author in illustration of his views. They would all appear to have been equally fortunate in their results.

Case.—"A child, twelve months old, whose head was observed to have been increasing in size for the previous four months, now measured in circumference nineteen inches; the fontanelles and sutures were much open, but the parietes were not particularly distended, although fluid could be distinctly felt; the whole head was loose and flabby, and the bones as it were floating; the countenance shrunk and pallid, and the body generally much emaciated; pupils dilated and one eye-lid dropped, which the patient seemed perfectly unable to lift; slight convulsions occasionally; but usually it lay in a quiet, sleepy state; took its food rather voraciously; the bowels irregular, sometimes loose and sometimes costive, but the excretions always unhealthy. It had been attended by three separate medical gentlemen, who had given up the case as hopeless.

The head was shaved, and the adhesive bandage applied on the 10th of March; and, although compression was carried to a much greater extent than I have ventured on in any other case, no untoward symptom followed.

For three months no particular change in the state of the child took place; at this time, June the 10th, although the plasters were still firm, I thought it well, from the growth of the hair and other circumstances, to renew them, which accordingly I did. The bowels were still irregular, requiring occasionally a dose of castor oil, which answered the purpose exceedingly well, and no other medicine was given; the appetite still continued good; the food consisted of bread and milk and arrow-root.

July 15th—The plasters again renewed; no particular change in the state of the patient. The head appeared rather firmer, but no alteration in size; the bowels more regular, and evacuations somewhat improved. Diet ordered to be altered to beef-tea and jellies.

---

* Cases of Chronic Hydrocephalus in the Head, &c. By J. F. Barnard, M.R.C.S., &c.

Sept. 5th—Both eyelids in perfect action; no convulsions; bowels regular, and evacuations healthy; countenance expressive of ease and comfort; can sit up with little assistance, and appears lively; head much firmer, and reduced in size half an inch; gains flesh.

Oct. 29th—The head is firm and the sutures quite closed; the child begins to walk about, as yet rather staggering. Plasters left off. The child continued to progress, and in three months was restored to perfect health."

The pamphlet and the plan deserve attention.

ON RETROVERSION OF THE UTERUS, AND A NEW METHOD OF TREATING THAT AFFECTION. By CHARLES HALPIN, ESQ.*

Mr. Halpin passes in review the modes of treating retroversio uteri that have been recommended or practised, for the sake of introducing a case and a new method.

We need not detail the particulars of the case, which was a decided one of retroversion of the uterus, about the fourth month of pregnancy. Mr. Halpin first tried two fingers of the right hand in the vagina—then two fingers of the right hand in the vagina, and the thumb in the rectum. The patient exclaimed that "he was bursting something in her inside," and he was obliged to desist.

"I now relinquished all hope of being able to return the uterus safely by any introduction of the fingers or hand into the vagina or rectum, and retired with Dr. Finlay to consider our difficulties. I communicated my impressions to him; which were, that on bringing my fingers to bear upon the tumour, I found I could always move it to a certain extent, but after it reached this it became fixed, and I could feel the parietes of the uterus yielding under the very small point of contact afforded by my fingers; this gave rise to the sensation of rupturing the parts complained of.

I now saw clearly that my only chance of rescuing this woman from her perilous state would be, in the use of some instrument which could be brought to bear equally on all parts of the tumour, and with which sufficient power could be applied to raise it fairly above the promontory of the sacrum.

It instantly occurred to me, that *with the assistance of a bladder I should be able to inflate the pelvis, and thus raise its contents into the abdomen.* We acted on this suggestion. I attached a small recent bladder to the tube of a stomach-pump, with an air-tight piston, and having immersed it a few moments in warm water, to bring it to the heat of the body, I introduced it, empty, into the vagina, between the fundus of the uterus and the rectum. Retaining it within the vagina by holding my hands firmly across its orifice, Dr. F. inflated it slowly and steadily. After a time she complained of a sense of tension or bursting, but no pain. We then ceased throwing air into the bladder, allowing what was in already to remain, keeping up, as it did, a steady, equal, well-directed pressure on the tumour. After the expiration of five minutes we threw more air into the bladder, when the patient exclaimed slowly, 'Oh, now you are forcing something up to my stomach!' I retained the bladder some time longer in its situation; and then, previous to withdrawing it, permitting the escape of some air, I introduced my finger, and had the satisfaction of finding that the tumour was no longer in the pelvis, and that the os uteri lay within reach of my finger, pointing downwards and backwards. I then, and not till then, removed the apparatus."

---

* Dublin Journal, March, 1840.

In his remarks, Mr. Halpin states that he considers this instrument applicable to the retention of the uterus in its normal position, when replaced. The retroversion having been rectified, he would introduce, as a pessary, a gum-elastic bag constructed on this principle, and inflate it to a proper state of distention. It will remain without producing the least annoyance to the patient; and cannot, from its nature, obstruct the free passage of either urine or fæces; whilst it will render the descent of the uterus within the pelvis a matter of impossibility.

SOME REMARKS ON ANEURISM OF THE INTERNAL CAROTID ARTERY.

By WILLIAM HENRY PORTER, Esq.*

The object of Mr. Porter, in a long and valuable paper, is to shew the unfavourable position of the internal carotid artery, when affected with aneurysm—unfavourable, we mean, for an operation. After alluding to the occurrence of want of coagulation and to suppuration in the sac, he remarks:—"In considering the causes that may interfere with, or prevent the successful issue of an operation, and the recovery of a patient, it is rather an unusual view of the subject to regard the situation of the tumor as exercising a very decided influence, or to aver that the principle on which we treat an aneurysm in the ham or in the thigh with almost a certainty of success, may not be applicable to the management of a similar affection in a different locality. Yet such, I fear, is practically correct; and although other collateral circumstances must be taken into account, as contributing their share in the production of this unpleasant result, yet I believe the internal carotid artery will be found so placed, as to afford a peculiar facility for the occurrence of these untoward complications, and that operations performed for the cure of aneurisms of this vessel, are attended with a degree of uncertainty scarcely to be expected elsewhere."

Mr. Porter points out the main circumstance that favours coagulation in the sac, viz. the blood getting into it sluggishly, and without impulse through the anastomotic branches. The fluid in the sac is therefore pretty quiescent, its natural tendency is to become coagulated, and the coagulum thus formed, being restrained by the sac and its coverings from extending itself in any other direction, is pushed towards the point where there is least resistance; that is, against the open vessel which it compresses and causes to become obliterated, just as would happen to any bleeding artery under the continued pressure of a clot. From this, and from other considerations, Mr. Porter thinks it will be conceded that any thing capable of disturbing the blood within the sac, will interfere with the process of coagulation, and thereby delay, if it does not prevent, the cure; and that any condition or position of the sac, which will allow the pressure of its contents to be directed otherwise than against the injured vessel, must have a similar effect. Either of these circumstances taken singly, may prevent the cure; when both are combined, success is scarcely to be hoped for.

"When pulsation," he adds, "is observed to return in the aneurismal tumor in a short time after the application of the ligature, it is obvious that the great object of completely cutting off the impulse of the heart has not been attained; that blood, to a greater or less quantity, not only enters the sac, but that some is returned again from it, and that the blood within it is constantly disturbed, and therefore kept in a state unfavourable to coagulation. This phenomenon of the re-appearance of pulsation, has of late years been frequently observed, and many of the causes that may conduce to it are now well known; some of them being of a nature entirely to prevent the cure of the aneurism, such as the existence of two large trunks in the limb, by an irregular arterial distribution, or where one or more large branches arise from, or otherwise communicate with the sac, and others which only delay the sanative process, but do not (at least necessarily) completely interfere with it. These latter are, firstly, the circumstance of the ligature being tied so loosely as not only not to stop the current of blood through the vessel, but not completely to cut off the impulse of the heart from the distal circulation; and what is of more importance, as bearing on the present subject, the existence of such an extensive and free communication by anastomosis as will convey to the tumor, by a circuitous route, the impulse which the ligature was intended to remove. I know not how far such a communication may be established in an aneurismal limb by a preternatural increase of size in the collateral vessels: such has been spoken of by authors, but I have no evidence of its existence in any one particular case to an extent sufficient to produce the phenomenon alluded to. However, I believe this unhappy condition obtains, with respect to aneurisms of the internal carotid artery in the neck, and that the free and extensive anastomoses through the vessels of the brain in their natural and normal state, will be quite sufficient, in some instances, as in the following case, to delay the process of cure, in others perhaps, to prevent it."

---

* Dublin Journal, March, 1840.

This may be looked on as the pith of Mr. Porter's paper, and it is to establish this that he introduces several cases, all interesting, some more and some less conclusive. These cases, tend, he thinks, and we agree with him, to shew that aneurysms of the internal carotid are unfavourably placed for the accomplishment of one part of the cure; that a ligature on the trunk does not entirely cut off the impulse of the heart from the diseased vessel; that such impulse may be conveyed through the circulation of the brain in its normal state; and that the effect of this impulse must be, to disturb the blood within the sac, and delay, if it does not prevent, its coagulation.

But Mr. Porter points out another circumstance in connexion with aneurysms of the internal carotid, which is far from unimportant.

" In a limb, when the aneurismal sac becomes distended with blood after operation, the pressure exercised thereby must be directed against the injured vessel; the structures external to, and surrounding such sac are, many of them, inelastic, all more or less resisting; they will not permit a growth or extension of the tumour in any direction towards them, and consequently when the sac is filled, and more particularly when its contents are solidified, it must not only press against the ruptured vessel, but compress it to an extent and degree to occasion its obliteration. But with respect to the internal carotid, the case is widely different. However covered with fascia, and muscle, and skin, and other resisting structures externally, it is wholly unprotected in the direction of the pharynx, for, on making a vertical section of the head and neck, and dissecting from within outwards, I find that the internal carotid is very close to the pharynx. In its passage upwards, from the bifurcation to its entrance into the skull, it obliques slightly backwards and inwards, having behind it the sympathetic nerve and first cervical ganglion, where it rests against the spine: external it has the styloid process, the three styloid muscles, the digastric, the mastoideus, and the different layers of fascia; a little in front it has the stylo-pharyngeus muscle, but internally, or towards the pharynx, it has nothing but the mucous membrane, the contrictor of the pharynx, some very loose cellular tissue, and the twigs of the superior laryngeal nerve; thus the aneurismal sac has ample room to grow and increase inwardly, and consequently the pressure it is forced to make on the opening in the vessel may be so trifling, as not in any way to lead to its obliteration. This circumstance may explain (although in Mr. Green's case it does not appear that the mouth and pharynx were ever examined) why that case proved to be what Scarpa might term an imperfect cure, and why in the case of Markay, in five weeks after the vessel was tied, and the direct force of the heart cut off, there should have been no advance whatever in the process by which the artery might be obliterated."

Defective Tendency of the Blood to Coagulate.

Mr. Porter asks :—" Is these a pathological difference in the blood of different individuals, giving to that of one a greater or less tendency or disposition to coagulate, than to that of another? If there is such a difference of condition or constitution, a knowledge of the fact, and more particularly of the causes or circumstances that lead to its production, might prove of incalculable benefit in the management of disease in general, but more particularly those of the circulating system. And that there is such a difference, I am strongly disposed to believe, although being totally unprepared with satisfactory proofs, I dare not offer it even as an hypothesis—but rather as a suggestion that may lead others (as opportunity may offer) to investigate the pathology of the blood as promising to lead to invaluable practical results."

Surely this is no new idea. The cases that have at different times been published of a remarkable tendency to hæmorrhage, more particularly Mr. Blagden's case, have been looked upon as instances of what Mr. Porter mentions. We have indeed, in our own physiological lectures, been accustomed for some years to advert to this very point, and to cite those cases as examples of the imperfect power of coagulation which obtains in some individuals.

MR. LEE ON NERVOUS DISORDERS.

In a second edition of Mr. Lee's little work there is an Appendix, containing some interesting cases, of which we shall give a short account in this article.

1. *Paralysis succeeded by incessant Movements.*—This was a Florentine girl, aged 17, menstruating irregularly, but otherwise healthy. She had a fall and injured her neck, where an abscess formed. Paralysis of the left arm and leg succeeded. Subsequently paralysis of the right side occurred, in which state she was brought to the hospital in November. The intellectual, respiratory, and digestive functions remained unimpaired. The case was considered spinal inflammation. Leeches, blisters, low diet, and strychnine were employed. They produced no apparent effect. In consequence of a sudden mental shock, the paralysed members became affected with constant involuntary movements, which lasted several weeks. Mr. Lee suggested to the physicians that the disease was hysteria. The diet and treatment were altered, and she recovered.

2. *Incessant Motion of the Head.*—This and two or three other cases are taken from Bell and Bright. They need not be noticed here.

3. *Complicated Nervous Affection.*—Cæsar Pineiro had enjoyed good health till the age of ten, when he was greatly frightened, soon after which he began to experience the most strange and anomalous symptoms—drowsiness—convulsions of an epileptic character—chorea—loss of sense—jactitations, &c. succeeded each other, or alternated in great irregularity. One constant symptom was uneasiness in the chest, stretching from the left hypochondrium to the mouth. Various medicines were tried with questionable effect. It was curious that, out of hundreds of attacks, only five occurred out of his own house. He was sent from home, put to reside with a priest, and had no more fits. There was tenderness on pressure over one of the dorsal vertebræ.

4. *Intermittent Aphonia.*—Mad. B. aged 46, married. Lives in the country, and takes regular exercise, and menstruates freely. At the age of 30, she suddenly lost her voice, at 12 o'clock, without fever, pain, or local uneasiness. The voice returned at night, but was lost the next day at the same hour. At the end of three weeks the Aphonia Periodica disappeared. In a few years afterwards, she had returns of the aphonia, the attacks coming on daily, and the period lasting for a fortnight or three weeks. It was in 1817, that the attacks took the following character. Every year, in February, the attack was preceded by rigors and yawnings, exactly at mid-day, without any alteration in the pulse, or local pain. The aphonia then becomes almost complete. There is a sense of constriction in the epigastrium, from whence the impediment of speech seems to proceed. The aphonia continues all the evening. She goes to sleep, and awakes quite well. The periodicity continues as regular as the sun. By long repetitions of these attacks, the general health became enfeebled. She took eight grains of quinine every morning without any effect. No other medicines stopped the paroxysms, which generally continue to recur daily for three to seven months every year, after which she regains health till the succeeding February. It was expected that the disease would stop at the turn of life.

We think this periodical aphonia was connected with some cause attached to the locality of the lady's residence, and was of the aguish character. The measures, as may be easily supposed, were anything but energetic in therapeutics.

5. *Surprising Cure by Homœopathy.*—A young girl was admitted into the Hôtel Dieu, on the 4th of January, who had lost her voice completely since the middle of November preceding. The usual remedies produced no effect. She was then placed in the homœopathic department, and two starch pills were given—one in the presence of the physician, and the other four hours afterwards. In a few minutes after the first pill was exhibited, the patient evinced anxiety, pain and uneasiness in the region of the heart, perspiration, with heat of skin, and a florid efflorescence on the surface. The second pill aggravated all these symptoms, with the addition of hiccup. She afterwards fell asleep, and, on awaking, found that she could talk as loud as any of her fellow-patients.

This is a good specimen of the wonderful cures performed by homœopathy, and animal magnetism. If, as Plato believed, the mind is the cause of half our diseases, we see no reason why the same agent may not remove those diseases which it has originated. In truth, much of the etiology and therapeutics of human maladies is under the influence of the imagination. Hence it is that a physician of reputation will cure complaints with the very same remedy that has failed in the hands of less celebrated practitioners. It is wisely ordained that the tyrant death, or their infirmities, permit but a very narrow range and limited existence to talent and reputation. Were it otherwise, one-half of the world would be starved by the overgrown wealth of the other!

A CASE OF INFLAMMATION OF THE SCHNEIDERIAN MEMBRANE, EXTENDING ALONG THE OLFACTORY NERVE TO THE BRAIN, AND PRODUCING AN ABSCESS IN ITS INTERIOR. By HENRY JAMES JOHNSON.

The following case appearing to present some features of interest, I have ventured to lay it before the readers of this Journal. I regret that, from circumstances which it is unnecessary to mention, the account of it is so imperfect.

Case. I was requested by a lady, in the Spring of last year, to see her maid, a person of fifty years of age or upwards. She complained of discharge from her left nostril. The discharge was yellow in colour, purulent in character, and rather "sickly" to the smell (her own) than decidedly offensive. The left side of the nose was more protuberant than the right, and a very faint erythematous redness was upon the skin. The swelling appeared to be in the soft parts covering the nasal bones, rather than an expansion of those bones themselves. There was some tenderness on pressure. On examining the nostrils, the Schneiderian membrane in the left was redder than natural and tumid, but no ulceration was perceptible, nor could the probe light on any portion of exposed bone. The fauces presented nothing unusual. There was no affection of vision, nor was there any pain in the head, or disturbance of it.

The countenance of the patient was sallow and unhealthy. Her tongue was rather foul, her pulse quick, and her bowels sluggish. She was of a very nervous temperament.

She could give no satisfactory account of her complaint, at least of its cause or commencement. She had always enjoyed tolerable, but never robust health, and from her youth had lived a very quiet, though rather confined, life, as a lady's maid. She was unmarried, and had never a venereal affection, nor ever taken mercury. The discharge had established itself gradually, and was at first thought by her to be a cold in the head. Its persistance for five or six weeks before I saw her, and the tumefaction of the nose, induced her to fear that it was something more serious, and to apply for my advice.

The case wore the aspect of chronic inflammation of the Schneiderian membrane, and probably of ulceration of some deeper portion of it. Under this impression, I directed the application of two or three leeches to the left side of the nose every third or fourth night—injections of warm water, followed by a solution of sulphate of zinc, and washes of that nature—gentle aperients and such remedies as would improve the secretions—and a course of sarsaparilla. These means were apparently attended with a good effect. The discharge diminished, almost disappeared—the tumefaction of the nose diminished too—the pain was no longer felt—and the general health improved. But still the patient was far from strong, and in consequence of her age, and her infirmity, her mistress pensioned her off, and, in the Autumn, she went, for change of air, to her native place, in Monmouthshire.

The weather was at that time very bad, and she suffered greatly from the wet and cold. She soon grew worse, and, after remaining for two or three months in the country, she returned to town.

A striking alteration had occurred in her appearance. She had lost much flesh, had the anxious appearance which betrays serious disease, was sallow, with a disposition to a feverish flush upon the cheek, was feeble in her gait, and rather hurried in her manner. The pulse was extremely weak and frequent, the tongue somewhat loaded, and the bowels disposed to be confined.

The swelling on the left side of the nose seemed to have rather increased than diminished, but was still much less than when she first came to me. The discharge had augmented materially. From the left nostril, it was purulent, but rather bloody, profuse, and offensive; from the right nostril there was also some, but it was yellow, and more free from odour. On inspecting the nares, nothing more was visible than the redness and tumefaction that were perceptible at first.

I concluded that the ulceration of the Schneiderian membrane had extended to the bones high up in the nares, and anticipated considerable mischief. It would be useless to particularize all the remedies that were employed—they mainly consisted in the iodide of potassium—sarsaparilla—the mineral acids—regulation of the bowels, &c.—and injections of various descriptions. They appeared neither to do good nor harm, for the symptoms continued for some six weeks or two months with little alteration, save that the patient *looked* worse and *felt* so.

At the expiration of that period I observed a tremulousness in the gait, which seemed to pass the limits of any ostensible debility—and there was an absence in her manner, and a defectiveness of memory which attracted my attention too. She no longer complained of the discharge being offensive to herself, but inquired very earnestly whether it was so to me. Her pulse was more quick, her skin rather warm, and there was a sort of low fever which forbade all medicines of a stimulating character. I had not seen her for ten days or a fortnight, when she came to me for the last time, accompanied by her sister. She had difficulty in entering the room, her steps were so unsteady, her regards so wandering, and her ideas so uncollected; in fact she was in a state of low delirium. Her pulse was rapid, and, as it had long been, the skin warm; the tongue was foul. She had lost a large quantity of blood from the nose that morning, and had been worse since the hæmorrhage.

Of course I sent her home immediately, gave such prescriptions as I thought necessary, and called to see her next morning. She was then comatose, but still the skin was *warm*, and the pulse though weak in the extreme was rapid. The pupils were dilated, and insensible to light—the limbs were not moved when gently pinched. She lay in this state for six and thirty hours, and then died.

Dissection.—I was kindly assisted in my examination of the head, by my pupils Mr. Barrett, and Mr. Ballantine. The idea of the case which I had formed was this:—*that*, ulceration of the Schneiderian membrane had extended to the æthmoïd bone, the upper parts of which were probably carious—that the cribriform lamella was implicated, or at least had been the means of carrying inflammatory action to the membranes at the basis of the brain, and that effusion of serum, lymph, or pus had occurred in their vicinity.

On removing the skull-cap, the veins of the pia mater on the surface of the hemispheres were found to be much congested, and there was some arterial injection too. The substance of the brain presented those dark spots on section, which mark a loaded state of its venous system, but otherwise the general texture of its upper part seemed unaltered.

The ventricles were greatly distended with turbid sero-purulent fluid, in which were flakes of lymph in considerable quantity. The septum lucidum was almost totally destroyed. The walls of the ventricles were softened to the depth of a line or more, and the softened substance, as well as that immediately beyond it, was marked with punctuated and slightly ramified injection. The effusion extended into the third and fourth ventricles.

The principal mischief existed in the anterior part of the left ventricle. The surface of the corpus striatum was ulcerated, and softened; greyish in colour, and marked with punctuated injection.

The anterior horn of the ventricle opened into an ulcerated cavity in the anterior cerebral lobe, capable of containing a moderate-sized walnut. Flaky sero-purulent fluid was found in it. Its walls were greyish, softened, injected, and its floor was particularly softened, ulcerated, and in a point destroyed, in the situation of the pars perforata antica.

This led to an examination of the basis of the skull and cerebrum.

Superior to the arachnoïd of the latter, stretching back from the pars perforata antica on the left side, was sero-purulent fluid and lymph. This deposit extended along the sub-arachnoid cellular tissue to the medulla oblongata and cord, which, so far as could be seen, were surrounded with it. From the circumstances attending the examination, it was impossible to open the spinal canal. This sub-arachnoïd effusion was limited to the basis of the cerebrum and to the medulla.

Attention was now drawn to the left æthmoïdal groove (the upper surface of that cribriform lamella) by a good-sized *drop* of pus which stood in it. This was found to be *in* and *on* a large foramen, through which one of the branches of the olfactory nerve had passed into the nose. On breaking up the cribriform plate, the pus was found to communicate with purulent matter situated in the upper part of the nasal cavity, besmearing its Schneiderian membrane, where that was not destroyed, and walls. The bone forming the latter was more or less exposed, dark, and carious. The æthmoïdal cells on the left side were laid open into the nasal cavity by caries, filled with pus, and partially broken down. But the os planum remained entire, the barrier between the nose and eye was left, and the latter organ was intact.

To revert to the superior surface of the cribriform lamella and the drop of pus seen on it. The dura mater and arachnoid on the former were sound. This pus was found, on inspecting the brain, to belong to a small abscess *in the substance of the left olfactory bulb*, which lay on the cribriform lamella in that spot, and received, through the opening by which the pus communicated with that in the nasal cavity, one of its nervous filaments.* The olfactory bulb, then was hollowed out into a small abscess. From this, there passed back *along* the *nerve* and *above* the *arachnoïd*, a layer of lymph. On reaching the spot where the nerve has its three-fold connexion with the brain, the lymph held on its course above the arachnoid towards the medulla oblongata, as I have already mentioned.

But the "root" of the olfactory nerve which connects it with the anterior cerebral lobe, was grey, injected, softened, and partially ulcerated, and this was *the* defective and destroyed point in the floor of the ulcerated cavity of the anterior cerebral lobe, which has been described already.

Such are the main features of this rather remarkable case. I think there can be little doubt that the disease ran this curious course:—inflammation of the Schneiderian membrane in the upper part of the left nasal cavity,† led to exposure and disease of the æthmoïd cells on the one hand—to extension of inflammatory action along an olfactory filament or filaments to the olfactory bulb on the other hand. This inflammation produced abscess in the bulb. The inflammation extended back along the nerve to its root, occasioned softening or ulceration there, and from that invaded the anterior lobe of the cerebrum, where it gave rise to an abscess. This opened, by ulceration, into the left ventricle, inflammatory action was set up in *its* walls, they were softened or in part destroyed, increased effusion was poured out, and distended not only the lateral ventricles, but the third and the fourth also.

Starting from the same point, the root of the olfactory nerve, the inflammation and consequent effusion took another route, that of the sub-arachnoïd cellular tissue, along the basis of the brain to the spinal cord.

I should state that my friend and colleague, Mr. Tatum, examined the cerebrum after its removal, and coincided perfectly with the view that has been stated. The preparation itself, though put in the strongest alkohol, was unfortunately so softened by its rough and clandestine removal from the body, that it would not bear the pressure of the dish, and was soon worthless.

This case bears some analogy to those which have at various times been published, in which disease beginning in the tympanum, or internal ear, or mastoïd process, has extended to the brain itself. But there is this considerable difference between them. In the latter cases the temporal bone being diseased, the dura mater and arachnoïd suffered from their connexion with it, and these membranes propagated the inflammation to those immediately investing the brain, and to the brain itself. In the case, however, which I have related, the dura mater and arachnoid covering the upper surface of the cribriform lamella was sound, the cribriform lamella itself was sound too, and the disease had extended along a nervous cord, not to a contiguous, but comparatively remote and deep part of the cerebrum.

---

* This phrase implies the passage of the olfactory nerve, from twig to trunk, *towards* the brain.

† I should observe that the right on examination was sound, at least the bone was so.

The case most analogous to this, in point of principle, is where malignant disease of the eye extends along the optic nerve to the brain.

Independently of any interest that it may derive from singularity, this case has a practical one of greater value. It points out a danger to be held in view in inflammatory diseases of the nasal cavities. Nor is that danger to be looked on as altogether chimerical. The following instance appears to be one in point.

Case. In the course of last year, I saw a lady, about thirty years of age, who was affected with common vesicular polypi in each nostril. They were of tolerable dimensions, had descended into the inferior meatus, and did not seem to have a more elevated origin than such polypi usually have. The lady was unmarried, and of a very nervous temperament. She had not, I believe, had the polypi removed before.

I seized and extracted without difficulty, and with little force, some vesicular polypi from each nostril. It is a common recommendation to tear away a bit of the spongy bone from which the polypus grows. This, however, was not done in the present case, nor was the violence employed *so* great as is customary.

That evening the lady was attacked with shivering followed by fever, pain in the forehead, flashes of light before the eyes, and some confusion of intellect. It was necessary to apply leeches, and to resort to strict antiphlogistic treatment, before the symptoms were removed; nor could this be done in less than a week or ten days.

This case, coupled with the fatal one I have narrated, would lead a cautious surgeon to pause before he pronounced even so trivial an operation on the nose as the avulsion of a simple polypus, totally free from hazard. And they tend to throw doubt on the propriety of the direction, to endeavour to tear away a piece of bone.

I had intended to have offered a few observations on chronic inflammation of the Schneiderian membrane—a complaint both common and troublesome. But these remarks have already extended too far, and I cannot venture to intrude longer on the reader.

DR. FLEMING ON ABSCESS BETWEEN THE PHARYNX AND THE SPINE.*

DR. Fleming relates two highly interesting cases, and adds many observations, illustrative of the occurrence of acute suppuration in the loose cellular tissue behind the pharynx. We shall take the first case.

Case. It was that of a boy. His age was three years and a half, and in appearance he was healthy. The premonitory symptoms of his attack, at first mild, after about thirty-six hours, assumed most intense severity, and without unnecessarily particularising their progress, it may be stated, that the most aggravated form of high inflammatory fever set in, principally engaging the cerebral organs, and requiring the most energetic treatment to combat it. On about the fourth day, convalescence appeared established. But from day to day a peculiar fixed position of the head, and stiffness in the neck, now attracted attention. The head was drawn back. The muscles, at first tense, became completely and permanently rigid, and the movements of the head painful, and remarkably limited. Soreness in the throat was complained of, and also great difficulty in swallowing, at times accompanied with violent spasmodic efforts. There was no cough, and the voice remained perfect. The articulation became remarkable—the words being as if drawled out with pain and difficulty, and at times perfectly unintelligible.

---

* Dublin Journal, March, 1840.

Repeated and careful examination of the fauces and neck could not detect any apparent local cause for those symptoms, which, with varied degrees of intensity, advanced, producing equally alarming constitutional disturbance and debility. The treatment adopted was principally with the view of promoting the absorption of any fluid effused in the cerebrum, and consisted chiefly in the exhibition of mild mercurial alteratives, and the application of counter-irritants to the region of the occiput.

" On about the tenth day, the symptoms had reached their acmé; the child, emaciated and weakened, had no relish for food, and appeared to drink merely to allay thirst, the efforts at swallowing being convulsive and painful. He was now in a perfect state of somnolency, regardless of every thing about him, when accidentally, whilst sitting beside his bed, I perceived that *position* most remarkably influenced the severity of the prominent symptoms. Stupor in the recumbent posture, almost amounting to perfect coma, in the sitting, or even semi-erect, resolved itself into a comparative sensibility. Respiration slow, laboured, and stertorous, or rather roaring, (as described by the attendants on the child,) in the former position, became comparatively tranquil in the latter, and a pulse, in the one, ranging only a beat or so above forty, in the other, assumed a more natural character. Again, fluids were more frequently darted convulsively forwards through the nostrils or mouth, than passed into the stomach, or were ejected, as in the act of vomiting, and the recurrence of the symptoms of cerebral compression took place on returning to the recumbent posture, which for the last three days had been almost the permanent one.

I now considered that this relation of symptoms might still be caused by mechanical obstruction in the pharynx, although repeated examinations on former occasions did not lead me to this conclusion. An additional obstacle presented itself in the fixed position of the jaws, so that it was only by considerable force I could so far separate them as to admit of even getting my little finger between them. On forcing it back, I accidentally, but distinctly, felt a tumefaction beyond the base of the tongue, giving, as well as a compressed finger could indicate it, a sense of yielding. To get a view of it was utterly impossible. The soft palate and uvula were easily discernible, but the depression of the tongue gave so much pain, and the separation of the jaws was so very limited, that further investigation was totally out of the question. Indeed, in addition, the evidence, even from touch, was necessarily momentary, from the severe paroxysms of dyspnœa attendant on the examination.

Although I had never heard of, nor witnessed a case of the kind before in children, it at once occurred to me, that this might be an abscess at the back of the pharynx, mechanically producing the above symptoms, and having stated this as my opinion to the family, the assistance of Dr. Crampton and Mr. Cusack was immediately procured. After a patient, though extremely unsatisfactory examination, they coincided in opinion with me as to the presence of a tumor in the situation alluded to, and it was determined that I should perforate it with an explorator which I had provided for the purpose, with the view of ascertaining its actual nature,—a doubt existing on this head, not alone from the extreme firmness of the tumor communicating a very indistinct sense of fluctuation, but also on account of its probable anomalous nature from the previous acute and present chronic cephalic symptoms. With every necessary precaution I accomplished this object, though with considerable difficulty, and to my great gratification, witnessed the sudden gushing forth of a large quantity of healthy purulent matter. The whole features of the case were almost instantaneously altered. The somnolency was removed, deglutition was facilitated, and more cheering prospects manifested themselves. Nourishment was freely given throughout the day, and quinine administered in small and repeated doses."

The symptoms were returning in the evening, when Dr. Fleming found, on examination, that the abscess was again filled and the opening closed. He introduced a carefully protected sharp pointed bistoury, into the site of the opening, and freely enlarged it downwards. The relief was instantaneous. He directed the trunk of the child to be elevated as much as possible, and the head depressed. The night was passed comparatively tranquil; the quantity of matter which escaped through the mouth was considerable, largely staining the pillow. The next day, the boy was able to play with his brothers, and subsequently his improvement was progressive, though slow.

The next case is very similar, save that the child was an infant at the breast, the abscess below the level of the tongue, and the fluctuation more obscure. A peculiar instrument, therefore, became necessary. It consisted of a trochar about four inches long, one extremity of the cannula being slightly curved, the other with a ring on its upper surface to receive the fore-finger; into this cannula was passed a jointed stilette, with, at its opposite extremity, a ring for the thumb, and a moveable screw to graduate the projection of its point. The head of the child being firmly supported, Dr. Fleming passed the forefinger of the left hand towards the back of the pharynx, there resting the point of it, and guiding the armed trochar with the concealed stilette along it, accurately fixed it on the tumour, pressed forwards the stilette to its limited mark.

Dr. Fleming has not seen any similar acute case in the adult. But some have been related—one by Sir Astley Cooper—one in the Dictionnaire de Medicine et de Chirurgie Pratique, under the head "Pharyngotome et Pharyngotomie." In all these cases, the abscess was formed before it was suspected.

Dr. Fleming makes some lengthened observations on these cases, but, though instructive, we cannot go into them. We think the one case we have quoted, together with the following summary of his opinions, will enable our readers to see their bearing in a sufficient degree.

"I consider this affection of the throat in children, when *acute* in its progress, as, often, an inflammation of a lymphatic gland situated at the back of the pharynx; an inflammation extremely rapid in its progress to suppuration from its particular position; that I would watch for it during the period of difficult dentition, and in the several cutaneous affections or diseases of the gastro-intestinal mucous membrane to which children are liable; and that I would consider as strongly pathognomic of its presence the following symptoms:—

Fever, more or less sthenic in its character according to the peculiarity of constitution of the child, is always present, and, I think, precedes the development of the local symptoms.

These local symptoms are premonitory and essential.

The *premonitory*, indicative of *local* uneasiness, but yet common to all affections of the throat; complained of, or otherwise, according to the age of the child, and on examination, not accompanied with proportionate visible lesion. The *essential*, often very suddenly supervening, and indicated by derangement of the cerebral, circulating, and respiratory systems, alternating with the comparatively healthy condition of those systems, according to the alteration in the position of the individual.—Fixed and retracted state of the head, with rigidity of the muscles at the back of the neck, and more or less locked state of the jaws. —Painful deglutition, impossibility of swallowing solids, and fluids convulsively darted forward through the mouth and nose.—Repeated acts of deglutition without the presence of any fluid in the mouth, and, on examination of the fauces, a firm, projecting tumour felt beyond the base of the tongue, and if seen, presenting a smooth, rounded, highly vascular appearance behind the soft palate usually occupying the median line, but occasionally inclining to either side. These *essential* symptoms accompanied with the ordinary characteristics of suppurative fever."

When such symptoms are present, an abscess should be looked for, and an opening (if there are any indications) should be cautiously made.

PLASTIC BRONCHITIS TREATED BY MERCURY.*

Dr. CANE has published in our contemporary a valuable paper, on Plastic Bronchitis, or Bronchial Polypi. The concluding observations, short as they are, exhibit its object.

"The facts, I conceive, derivable from the cases now presented to the Profession are, that plastic bronchitis is a disease *sui generis*; that the sputa are essentially distinct from those bodies termed polypi, and which are no more than coagula, freed of the colouring matter of the blood; I allude to those found in the heart; and those sometimes ejected from the bronchi of patients who have had hæmoptysis. With those they have no character in common, except that of shape, being moulded in tubes of a like form; indeed it is unnecessary to dwell upon the differences, for the preparations, as exhibited on the plate, will at once display them. That as far as the two cases, now published, go, they are not indicative of phthisis, and that mercury is a certain remedy for cure, are facts the more valuable, because of the concurring testimony afforded by the valuable case of Dr. Corrigan."

Dr. Corrigan's case happens to be more concise than Dr. Cane's, for which, and for no other reason, we cite *it*. To Dr. Cane is due the merit of the paper.

Case. On the 14th August, 1839, Mr. A. aged 40, called on Dr. Corrigan.

"As he entered my study, his aspect seemed that of a man in the last stage of valvular heart disease: his countenance was sunken and anxious, his lips were bluish, and his respiration so laboured as to be almost painful to look at; each inspiration was accompanied with a wheezing, so loud that, at first, I thought it was produced in the larynx, but his voice was unaltered. He told me that, notwithstanding his apparent distress of breathing, he was at that moment comparatively easy; that at times the distress of breathing became most severe. On several occasions within the last three weeks, he had attacks of suffocation, coming on in the course of the night, lasting so long as half an hour, and as he described them, threatening almost death. Sometimes, for hours, he has been obliged to sit up, with the window open. These fits terminated in expectoration. He has no palpitations; his appetite is good, and his bowels are regular, he attributes his illness to cold, as its commencing cause, caught about twelve months since, when, after exposure on a coach, he got cough; then in the spring, influenza; and within the last three weeks the suffocative attacks. On examining the chest, I found the sounds of the heart quite natural, and the sound on percussion over the chest good; but on applying the stethoscope under the right clavicle, my attention was at once suddenly arrested by the great irregularity of the respiratory murmur. At one moment the respiratory murmur was very loud, and the next instant it was nearly inaudible. The clear wheeze, above noticed, (*rale sibilant*) was immoderately loud and piercing under the right clavicle, but on tracing upwards with the stethoscope, it became less loud as the stethoscope approached the larynx. These singular varieties in the respiration made me suspect the existence of aneurism or tumors, &c. pressing on the larger bronchia, but I sought in vain for any sign of their existence. I then desired him to cough very freely. He coughed, hard and with a bronchitic ringing, for some moments, and after some efforts expectorated four or five bronchial polypi or moulds of lymph of the bronchial tubes. Of these plastic concretions, one was as thick as a small-sized goose-quill and about an inch and half long; several were much smaller in diameter, but longer, and all were white, opake, and remarkably tough. The expulsion of these plastic secretions was immediately followed by a very remarkable change in the state of respiration. The respiratory murmur instantly became suddenly loud, and equal in both lungs, and the wheezing ceased, nor could he again, by coughing or by any effort, reproduce it. The nature of the case was now clear: some of the bronchial tubes had taken on this plastic secretion, and as this formed each successive night, it blocked up the bronchial tubes, until, at last, the obstruction in these tubes rose to such a height as to bring on impending suffocation. From this he only got relief by fits of coughing, which dislodged the secretion, and then there was an interval of ease until the secretion began again to be formed."

---

* Dublin Journal, March, 1840.

Dr. Corrigan directed the cessation of the antispasmodics, &c. and ordered him 10 gr. of hyd. c. magnesia three times a-day, with full doses of aqua kal. caustici, and desired him to inhale, twice a-day, the steam of water in which conium leaves were infused. In five days the mouth grew sore, the plastic secretion ceased, and on the 26th inst. the patient was well.

SLOUGHING OF THE UVULA, FROM CATARRH.*

Dr. Berkeley, of the Philadelphia Dispensary, had under his care a girl, ten years old, who had laboured under a slight catarrh, for a few days. A remarkable change in her voice induced her parents to ask medical advice. Upon examining the throat, the fauces were found so much swollen as nearly to close the entrance into the œsophagus; while the uvula was thrown forward against the roof of the mouth, much enlarged, and sloughing at its extremity.

The girl complained of no pain whatever, and seemed to suffer only from an inability to swallow any thing but fluids. She was directed to use stimulating gargles, till there was a return of sensation in the parts, and the uvula was touched four or five times a day with a solution of nitrate of silver, (iv. gr. to the oz.) On the third day a considerable portion of the uvula was thrown off—the swelling of the fauces had been much reduced; and the sensibility of the whole surface so far restored as to render the use of stimulants no longer necessary. A mild astringent gargle was then directed, which was continued till the eighth day; when the patient was discharged, cured; no symptoms of the affection remaining, except a slight difficulty in pronouncing a few words, in which there were many consonants.

SKETCHES OF FRENCH SURGERY AND SURGEONS BY AN AMERICAN.

To those who are in love with Continental Schools of Practical Surgery, the following sketches by an American Physician, Dr. Harlan, published in the Medical Examiner, of Philadelphia, may not be devoid of profit. We would earnestly direct attention to his observations. There is a growing disposition in this country, a disposition, unfortunately fostered by some, to look with admiration on Foreign Medicine, and more particularly on Foreign Surgery, and to imitate that mere *artiste-like* skill, mechanical dexterity, and disregard of the *scientific* treatment of disease, which have hitherto contrasted slowly with the useful and honourable, though not the showy characters of English practice. Let us hear from an eye-witness what Parisian Hospitals and Parisian Surgeons are.

---

* Medical Examiner. No. 25, Vol. II.

"Parisian hospitals and French surgery might be presumed, *à priori*, to be the first objects of attraction to a practical surgeon; but I cannot but confess that a longer acquaintance with them, a more extended course of investigation, and a more familiar intercourse with their most eminent teachers of surgery, have in no small degree lessened the admiration with which I once viewed the éclat generally attributed both to the men and the institutions. It is true, we cannot too much admire the long-continued and laborious application by which they have attained perfection as anatomists, and the consequent manual dexterity in operations, so universally admitted as a distinguishing characteristic of French surgeons,—and here their dexterity or superiority ends. Not only so: this dexterity itself has been obtained at the expense of principle and at the expense of life; thousands are annually consigned to a premature grave by operations not always necessary to be performed at all, or improperly timed, or performed in cases that must terminate fatally, with or without operations. The mortality occurring at the Hôtel Dieu, perhaps one of the best, is absolutely frightful in amputations alone; the surgeons admit a loss of ninety-five per cent; and one of the internes admitted, that during his residence for one year at the Hôtel Dieu, not one case of recovery occurred after amputation! I esteem M. Roux, the surgeon-in-chief of this extensive institution, as a personal acquaintance, and would not heedlessly detract from his hard-earned reputation; and in thus alluding to the results of my own personal observations, I have the interests of science only in view."

Here is a sufficient answer to the assertion, that great operators are not necessarily prone to perform operations that might by caution and skill be dispensed with. A knowledge of human nature would suggest the contrary, and experience confirms it. Men will be fond of what they are conscious of excelling in, and there is something particularly attractive in the éclat of capital operations. The fruits of studying operations as *the* great aim and object of a surgeon, are perceptible in France, and will be visible ere long, unless a strong resistance is offered to such a spirit, in England.

M. Roux.—"M. Roux possesses a grave, earnest, and decided character; but, like most others of his profession here, he is over-fond of displaying his manual dexterity. I have heard him beseech a patient to submit to an operation, as if it was the greatest favour conferred upon the operator; the operation once performed, the patient is pretty much consigned to his fate, for the after-treatment of French surgeons I consider little better than no treatment at all. The constitutional demands, the habit, diathesis, or idiosyncrasies of the patient, are almost universally and entirely overlooked, and hence, together with the foul air of the hospitals, the dreadful mortality of these pest-houses. On the very first *coup d'œil* of the wards of these hospitals, nothing but disastrous consequences could be anticipated from one hundred to one hundred and fifty human sufferers, crowded together, side by side, and exhaling each the noxious effluvia peculiar to the gorgon form of diseases which afflict the inhabitants of rooms constructed on the worst possible principles for the purposes intended, and in which ventilation was not thought of, and where classification of disease has never been attempted."

"As a lecturer, M. Roux is animated, though by no means eloquent. During a private interview I held with him at his house the other day, he complained seriously, and lamented the state of French surgery of the present day in comparison with its former state; no one surgeon now, he said, could obtain half so many *operations* as formerly,—there were so many hospitals, and then each institution was 'si partagé,' 'si isolé,' there being eight or ten surgeons to each, and then almost every department of surgery being pursued in particular by some surgeon of eminence, that but few opportunities comparatively were left now days for the surgeon of a general hospital to show his skill. Only seven cases of lithotomy occurred in his own wards last year. Thus the diseases of the eye, the ear, hernia, club-foot, affections of the bladder and urinary organs, venereal disease, &c. &c., have each a hospital devoted exclusively to themselves. M. R. is on the most familiar terms with his patients. In going his daily rounds from 7 to 9 A. M., he has always something funny, encouraging or coaxing, to say to them all; for one he has a poke in the ribs with his finger, for another a box on the ear, &c. I have seen him make a convalescent reel with a blow on the side of his cheek, for asking him for something good to eat—all in the best possible humour. He sometimes becomes very affectionate, and kisses a patient on whom he has just inflicted a severe operation; and this salute, the students say, always prognosticates the death of the sufferer.

M. Roux mentioned to me Physick, Warren, and Mott, as the only American surgeons with whom he was acquainted; and, judging from them, said he wondered at the large and rapid fortunes that were accumulated by American surgeons—a consummation which he feared would never attend the efforts of Parisian surgeons.

In person, M. R. is rather beneath the ordinary stature, of a sanguino-phlegmatic temperament—features blunt and ill-favoured—one eye projects from its socket, and has a cast in it. When earnest in discourse, his countenance is especially contorted."

M. Blandin.—This gentleman is also attached to the Hôtel Dieu. He has lately been coaxing his *stumps* to heal by the application of warm air after amputations, the stump being enclosed in a glass caisse, and air heated to the natural temperature of the body caused to pass constantly through it, is left without further dressing. Healing by adhesive inflammation, until within the last few years, was unknown in Parisian hospitals; from time to time some of the surgeons have attempted the adhesive process, but they are by no means fully aware of its importance. These stumps appeared to be granulating well, which may probably be accounted for by the simple circulation of air thus artificially produced.

M. Velpeau.—"M. Velpeau has been most unfortunate in the loss of patients in La Charité, in which hospital the mortality has been greater than in any other establishment. In addition to the usual causes which have gained for this hospital so mortifying a distinction, there has prevailed during the last winter and present spring an erysipelatous diathesis, which has desolated its wards, so that a puncture of a nail, the simple operation of extirpating a small ganglion from the neck of a healthy subject, the operation for the radical cure of varicocele, and amputations of all kinds, fractures, &c. I have seen terminate fatally in numerous cases; and yet M. Velpeau continued his operations, and appeared astonished himself at their want of success, and is far from taking advantage of the best means of averting the evil; his constitutional treatment is worse than nothing. A patient was admitted with a wound in the heel by a nail; erysipelatous inflammation followed, and was continued to the ankle-joint, producing suppuration, irritation, and death. No measures were resorted to in order to rally the powers of a broken constitution; and in the autopsy and lecture on this subject, M. V. expressed his inability to explain his want of success in the treatment of the case, and viewed the death of a patient from the simple puncture of a nail as an opprobrium to surgery! But human life, it is said, is of very little account with French surgeons. M. V. operated five times successively, for disarticulation of the knee, and in every case his patients died.

But M. V. is a most dexterous and fearless operator; and if his hospital was more fortunately constituted, would doubtless be more successful. I have seen him twice remove tumours involving large portions of the lower jaw, with complete success; but he frequently operates needlessly and recklessly: he is more anxious to display his dexterity than to cure his patient. As a lecturer, M. Velpeau is quite too eloquent, the idea being lost in the midst of verbiage; hence, M. Lisfranc has given him the soubriquet of 'le Paroquet,' and sometimes he calls him 'the Blacksmith'—M. V. having been educated to that trade—of which, however, he is in no manner ashamed, frequently alluding to the period of his life when he was 'un maréchal.' "

Amongst other things calculated to ensure success in practice at home, the English surgical student in France may acquire, we see, gentlemanly manners. One surgeon gives nicknames to the other. But that is nothing to what follows. M. Velpeau's address is anything but that of a gentleman. His personal appearance is vulgar, and his aspect forbidding; but his ugly countenance is agreeably relieved by a noble and expansive forehead, to which "oasis" he undoubtedly owes all his celebrity. He has a most disgusting habit of using the long, thin hair which covers his head as a mop, on which to wipe his hands when soiled by some putrid piece of pathological anatomy, on which he is expatiating before his class, every few minutes passing his fingers through his hair! For the politest people in the world this is pretty well.

The following anecdote of Velpeau and Heurteloup is *piquant.* The admirers of the Baron in this country will be taken aback by it.

" Two of my friends, an English and American physician, called recently on M. V. at his office. On being ushered into an adjoining apartment, they overheard M. V. and another person altercating in the highest tone of voice; (this visiter proved to be Baron Heurteloup.) They could distinctly hear M. V. address the Baron in the following manner:—'Mais, M. le Baron, vous savez que vous êtes un grand menteur.' When the Baron appeared to become furious, demanding to know what he meant by such an assertion, M. V. continued—'Soyez tranquille, soyez tranquille, M. le Baron; mais vous savez, entre nous, vous *savez* que vous êtes grand menteur!' Here the subject was dropped; M. le Baron, (who, by the way, I conceive to be much of an adventurer,) not considering it any insult to be called by a name which he himself is very liberal in conferring on his confrères, especially as he was not aware that any third person was a witness to the scene."

In the case of an old man, with fistula in ano, an incident occurred which shewed M. Velpeau's fondness for cutting. After the ordinary section, the surgeon amused himself in trimming the cut edges of the wound, very deliberately, when, all at once, a large projecting mole on the back of the patient caught his eye. It was too tempting a bait. He immediately transferred his scissors to it, and incised it at its base, very much to the discomfiture of the patient and merriment of the class, one of whom remarked that M. V. *cultivated* a patient's *acquaintance* very much like the gardener cultivated his plants, by lopping off all offensive parts and useless exuberances.*

M. Magendie.—" His spring course of experimental physiology commenced in the beginning of April. I seldom fail of 'assisting' at his murders. At his first lecture, a basket full of live rabbits, a glass receiver full of frogs, two pigeons, an owl, several tortoises, and a pup were the victims ready to lay down their lives for the good of science! His discourse was to explain the functions of the fifth pair of nerves. The facility was very striking with which the Professor could cut the nerve at its origin, by introducing a sharp instrument through the cranium, immediately behind and below the eye. M. Magendie drew the attention of the class to several rabbits, in which the fifth pair of nerves had been divided several days before. They were all blind of one eye, a deposition of lymph having taken place in the cornea, from inflammation of the eye always following the operation alluded to, although the eye is by this section deprived of all sensibility. Monsieur M. has not only lost all feeling for the victims he tortures, but he really likes his business. When the animal squeaks a little, the operator grins; when loud screams are uttered, he sometimes laughs outright. The professor has a most mild, gentle and amiable expression of countenance, and is in the habit of smoothing, fondling, and patting his victim, whilst occupied with preliminary remarks; and the rabbit either looks him in the face, 'or licks the hand just raised to shed his blood.' During another lecture, in demonstrating the functions of the motive and sensative fibres of the spinal nerves, he laid bare the spinal cord in a young pup, and cut one bundle after another, of nerves. The phrenological developments of the professor belie those of physiognomy. His skull is enormously broad between and behind the ears. Living dissection is as effectual a mode of teaching as it is revolting, and in many cases the experiments are unnecessarily cruel, and too frequently reiterated; but so long as the thing is going on, I shall not fail to profit by it, although I never wish to see such experiments repeated."

---

* Medical Examiner, No. 28.

DR. GERHARD'S CLINICAL LECTURE ON THE INFLAMMATORY ORIGIN OF TUBERCULOUS DISEASE.*

Dr. Gerhard observes, that the serous membranes afford us the best opportunity of studying the form of tubercles at their earlier period, and from the same transparency enable us to decide, with tolerable precision, the vexed question of the inflammatory or non-inflammatory origin of tubercles. When the case is acute, he goes on to say, it is much more obviously inflammatory than in those which are slower. These acute cases are attended with considerable febrile excitement, which sometimes becomes violent, and not a few patients perish during the early period of the disease, from the immediate effects of the pleurisy, and not from phthisis. Upon examining the pleura in these cases, you will find that the semi-transparent granulations are surrounded by a red circle formed by the bloodvessels developed during the course of the pleurisy. The vessels are most numerous in those parts of the pleura where the tubercles are largest, and placed nearly in contact. The vessels are arterial, and are visible to the naked eye; there are, however, others much smaller, and only distinguishable by a microscope. These vessels evidently do not enter the tubercle, but merely surround it, and perhaps communicate with the investing capsule. The smallest granulations like the largest, are surrounded by the same circle of vessels, and are evidently secreted in the same manner. The pleura may be detached from a portion of the granulations, but others come off with it. This arises from the fact that the lamina constituting the pleura proper does not enter into their substance; it is only the intermediate, and, as it were, cellular coats of the pleura, which nourish the newly-formed structure.

Besides the pleura proper, the false membrane, or coating of lymph, effused upon and within the serous membrane, is often the seat of tuberculous deposit.

---

* Medical Examiner, No. 28.

This never takes place except when the false membrane contains numerous red vessels, and is evidently in a state of active inflammation. It scarcely happens that tubercles are found in false membranes, except in connexion with these evident marks of inflammation; where they are met with under other circumstances, the membranes have contracted firm adhesions with the pleura, and have lost their distinctive character of newly-formed lymph. The evidence of inflammation, then, is conclusive he thinks in these cases.

Dr. G. has selected the case of tubercles of serous membranes merely on account of the clear demonstration of the steps of the process which is furnished by a transparent membrane; but in the other tissues of the body the same rule holds good. In tuberculous disease of the follicles of the intestinal canal, particularly of the glands of Peyer, he has traced the same vascular development at the commencement of the disorder. The injection was nearly as intense as in the serous membranes; at least, the difference was not greater than is usually observed in the inflammations of these tissues. The inflammation was not secondary, because it was developed at the very commencement of the lesion, when the most minute points of tuberculous matter could be detected, and was by no means confined to the cases in which the granulations had attained a considerable size. In the lungs, in certain cases, the same inflammatory process is quite evident; but, in these organs it is chiefly confined to two varieties. In one of these varieties, you find a large portion of the tissue of a bright red tint, rather more vermillion than in ordinary cases of pneumonia, and thickly interspersed with semi-transparent granulations of a remarkably equal size, as if they had been secreted simultaneously; or, as it were, by the action of the vessels. In another variety, the lung is studded with nodules of a darker red, composed of one or more lobules and quite hard; these nodules are found to contain an immense number of semi-opaque granulations; apparently deposited in the vesicles themselves, and contrasting, by their dull white or yellowish tint, with the redness of the proper pulmonary tissue. In the lymphatic glands, in the brain, especially its membranes, and occasionally in other organs of the body, the same coincidence of unequivocal inflammation is often met with, and nearly always the tuberculous disease is of the acute form, and terminates very quickly.

The question is—must we look on this as common inflammation, or as specific?

"That it is a true inflammation is very clear, for it not only presents its usual anatomical characters, but the disease evidently arises from the same causes as commonly give rise to inflammation, and follows the same order of symptoms; but, it is equally evident that the majority of cases of inflammation of organs are not accompanied by a secretion of tubercle. Hence, there is certainly some other cause at work, the intimate nature of which is unknown."

An interesting lecture.

DEXTRINE BANDAGES FOR FRACTURES.*

The following is Velpeau's method of application in fractured os femoris: the limb is in the first place enveloped in a common roller; a piece of bandage is then crossed over the ankle, for the purpose of extension, and over these is placed another roller, thoroughly impregnated with the prepared paste; compresses of coarse paper, similarly soaked, are applied over the fracture, and other prepared rollers applied over these,—coarse pasteboard compresses, softened by similar soaking, are also applied, and kept in position by other rollers. The extension is now made by tying the bandage from the ankle to the foot of the bedstead, (which are all of iron in these hospitals,) and counter-extension is made by a strap passed between the thighs, and made fast to the bedstead above the head. The bandages harden in a few hours, and the limb is incased in a solid coat of mail.

---

* Medical Examiner, No. 24.

Experiments have been made with numerous adhesive materials, such as starch, glue, paste, gum, &c., as substitutes for the 'Dextrine' bandages now used exclusively at La Charité, all the others having been proved less effectual; gum arabic bears the nearest approach to it, but this is too expensive. The 'Dextrine' is made by boiling starch in dilute nitric acid, and when separated from the liquor and dried, the powder costs about thirty cents a pound. One great advantage which this powder possesses over starch is, that it may be made into a paste with *cold* water, the former requiring boiling water. A very excellent and cheap substitute for linen or muslin bandages has been found in coarse paper, cut into suitable length and breadth, and soaked in this paste previously to their application; there can be nothing more effectual than a Scultet's bandage thus applied,—a method of economizing by no means beneath the notice of Parisian hospital surgeons, especially since a recent ordonnance of government, which obliges them to substitute paper for linen compresses—the savings thus accruing to be devoted to the gilding of that magnificent temple, the Madeline church! A more detailed account of this 'Dextrine' may be found by referring to 'Orfila's Chemistry.'

Dr. Harlan speaks very favourably of the results. The bandage answers better for fractured thigh than for fractured leg. It is very little troublesome to the surgeon, one single application being generally sufficient, especially if, before applying the bandages, sufficient time is allowed to permit the subsidence of all tumefaction; for this purpose, the patient is permitted to rest in an easy position for three or four days, when, if the bandage does not become loosened by the subsequent atrophy of the limb, a single application will suffice for the cure,—but even in case of reiterated application, it is less troublesome than the usual method.

STATE OF THE PROFESSION IN SPAIN.*

The Spanish doctors seem to be bad enough, yet not so bad as they have been represented. There is an old pictorial proverb on the devil, which is not inapplicable to them. They possess great respectability, and, while the priesthood have been retrograding, they have at least remained stationary. This is something in Spain!

One of the principal causes of the disrepute in which the Spanish faculty is held by their brethren, is the very small compensation they are said to receive for their services. Their compensation, measured by a foreign standard, is truly moderate and inadequate, but in reality is not so much so as believed; for, in the first place, their fees being low, they are oftener employed; and, in the second, they are paid in cash, so that they do not, from having long accounts and numerous charges against their patients, appear to be in the receipt of very large incomes, and yet have, in fact, very small ones, as is the case in the United States and other countries, where accounts are kept for professional services rendered. Moreover the Spanish physicians enjoy very great advantage in this respect, that they have none of their practice taken away from them by quacks, and the unlimited sale of nostrums; for neither the former nor the latter are permitted—laws existing for the suppression of all such nuisances to the profession and to the public.

---

* New York Journal of Medicine, No. II.

"From the Spanish faculty partaking in a great measure of the reserve peculiar to the nation, I was not able to learn as much of them as otherwise I should; but, from what I could observe, they may be said to be polite and dignified in their manners; as well, if not better, informed than any other class of men in Spain; and in their profession much more practical than theoretical; being little given to writing. In this respect, they are extremely singular, for an original professional work is nearly unknown; and even to periodicals they seem to have an antipathy; for, according to what I could learn, the only one published is in Madrid, and this has so limited a circulation that it was impossible for me to obtain a single copy. For recent information they rely almost exclusively on French publications, and chiefly on the periodicals published in Paris. The only English works I met with were those of Cullen and other medical authors of about the same period. These works were mostly translated into Spanish. Of those by American authors I met with none; and the Spanish physicians seem to be acquainted with few of even the most celebrated of them. Finally, in consequence of the perusal of French publications, Spain having been so often over-run by their armies, and many of the Spanish faculty having been partly, if not altogether, educated in the medical schools of France, their practice appears to be chiefly that of the modern French school, though it still partakes considerably of the ancient practice in Spain and other parts of Europe.—*Horner, in Bell's Med. Lib.*"

NOTES ON THE TREATMENT OF CHOLERA WITH ACETATE OF LEAD.

Dr. Graves, in a letter published in the London Medical Gazette, of Oct. 14, 1837, strongly recommends the treatment of cholera by the free use of the acetate of lead, and "implores the profession in every part of the world, where cholera prevails, to give his plan of treatment a fair trial." Influenced by this, Dr. Morehead, of Bombay, determined, when the opportunity should offer, to put the plan into execution.

During the month of May, 1839, fifteen cases of cholera were admitted into the European General Hospital, twelve were of sailors belonging to merchant ships in the harbour, and three, of children of the garrison staff. Of the twelve sailors, seven died and five recovered. The seven who died, were admitted into hospital many hours after the disease had been fully formed; in all, the pulse was imperceptible or nearly so; the skin was cold, damp, and livid; the features sunken; and in almost all, the purging had ceased. They were treated with stimulants, chiefly brandy, ammonia, sinapisms, dry heat, and frictions, and in several of the cases, where a return of the purging was apprehended, the acetate of lead pills were also exhibited.

Of the three children, two died, and one recovered. In the two fatal cases (3 and 4 years of age) cholera mixture and Dalby's carminative had been given before admission; the purging ceased, but, in both cases, convulsions succeeded by coma took place, and death quickly followed. In the successful case, the sinking of the pulse was never great, and the treatment consisted in mild mercurials, with quinine and opium, sinapisms and blisters.

In the other five successful cases, the acetate of lead was more or less freely used.*

---

* Transactions of the Medical and Physical Society of Bombay, Vol. II.

CUBEBS SHOULD BE FRESH-POWDERED FOR USE.*

At a meeting of the Surgical Society of Ireland, Mr. Morgan made some observations on the mode of giving cubebs, which are not undeserving of attention. He commenced by remarking the diversity of opinion that obtains with regard to the efficacy of the medicine. He went on to say, that, supposing, of which there could be no doubt, that the *essential* oil was the active medicinal principle, the problem was easily solved. On looking into the history of the Java pepper, he found that it, like most other vegetable products, was largely adulterated, and shamefully prepared for medicinal use. The London and Liverpool wholesale druggists, who supply the apothecary with the drug, send it chiefly in the state of powder, having previously added a fair proportion of pimenta berries, and Turkish yellow berries, (that is, the dried fruit of the rahmnus catharticus,) and it is much to be feared also, deprived it of a large proportion of its essential oil. But, taking for granted all was right, no adulteration, no extraction of the oil, its being so kept in the powdered state by the apothecary, the essential oil is rapidly dissipated; and on looking at the cover of the containing jar, the oil is seen largely adhering. Those facts induced him to speak to Mr. Herron, the respected proprietor of our national medical hall, on the subject, and he fully and entirely agreed in the propriety of purchasing a mill, and grinding the whole pepper as the prescription came to his compounding department. The result was most satisfactory. That the recently ground cubebs contain a much greater proportion of essential oil, Mr. Morgan satisfactorily proved, by a simple experiment. He procured from different shops in town samples of powdered cubebs, among them one ground in London late in the past year, as also one recently ground in Mr. Herron's mill. He placed each sample separately, in several folds of bibulous paper, and subjected them to pressure. On examining the packets he found that those had in the powdered state, scarcely soiled the envelopes, while that *recently ground* perfectly saturated all the folds: he considered that the experiment also proved the necessity of dispensing the medicine in stoppered bottles; or, what would answer equally well, and pay the apothecary better, in waxed papers. (He here handed round the samples, stating that they spoke for themselves.) The thirst for adulteration was so great that they even tampered with the unground pepper; but in that state it was easily discovered. The pimenta berries want the foot stalk, or bilocular, and contain two seeds; the cubebs, one; the rhamnus catharticus, four. To prove the thing practically, Mr. Morgan selected twelve cases of gonorrhœa indiscriminately. He treated six with the recently ground cubebs, and six with the powders had from different shops; the result proved the decided superiority of the former.

These observations are not undeserving of attention. No doubt much of the want of success, so much complained of with regard to cubebs, may be due to adulteration or to staleness of the drug. We may mention that a very good form of cubebs is prepared by Mr. Adams, a chemist of Charles Street, Pall Mall, London. He has termed it "Balsam of Cubebs." The dose is thirty to forty drops twice or thrice daily.

MR. CARMICHAEL ON THE ORIGIN OF MALIGNANT DISEASES.

We find in an interesting Lecture on Malignant Diseases, published by Mr.

---

* Dublin Medical Press, Feb. 12, 1840.

Carmichael in the Dublin Medical Press,[*] some observations in reference to his peculiar opinions on the subject, which are not unworthy of attention.

The doctrine, he says, which at present most generally prevails, is that they are morbid secretions, incapable of becoming organised, like healthy depositions, in consequence of unhealthy changes in the mass of blood. He argues against this. How, on this supposition, can we explain that a cancer commences in a point and acquires its volume by slow and progressive degrees? If it were a morbid secretion, it would not thus always have a minute origin and a gradual increase, but develop itself largely, and perhaps, at once engage the entire organ assailed. Again, it is acknowledged by those who espouse this opinion, that inflammation has nothing to do with these foreign productions, although they attribute them to the depositions of unhealthy lymph, yet we do not find that lymph, healthy or unhealthy, is ever deposited without its usual precursor or concomitant, inflammation.

Again, although it might be granted that tuberculous or carcinomatous productions might be owing to the deposition of unhealthy lymph, arising from a morbid state of the blood, this theory will not account for the fact, that cancer may arise in the healthiest person, if any part of his frame is subjected to such external violence or continual irritation, as to injure the organization of that part. This is a fact that must be familiar to every experienced surgeon. How will this hypothesis account for the prevalence of cancer in the breasts and uteri of women at that period of life when the catamenia first cease, when they are no longer capable of child-bearing, and consequently, when these organs become useless appendages to the female system? But the fact is, that if the disease had *always* a constitutional origin, arising from some vitiated state of the fluids, not at present understood, we should never see operation attended with success. Mr. Carmichael admits the paucity of successful cases, but still contends that, were the disease constitutional, success should *never* happen. The following is his criterion by which to determine the propriety of operating or otherwise.

"There *are* indications which point out sufficiently well, when cancer has not a local but a constitutional origin, and therefore, prohibit in such cases any attempt at extirpation. These signs are a delicate sickly appearance, but above all, a peculiarly pale anæmic countenance, inclining rather to a bluish or leaden hue, as if the blood had not been duly oxygenated.

If a person with this description of appearance should apply to me for advice on account of a cancerous tumour, nothing would induce me to recommend operation, even, although the lymphatic glands in its neighbourhood, were totally free from disease, and the lungs perfectly sound. I should be of the same opinion, even though the tumour in question were attributed to external violence and not to any fault in the patient's constitution. For the accession of any tuberculous or cancerous tumour in a person of this peculiar bluish pale, or leaden colour, would indicate to me, that the disposition to the formation of such tumours was constitutional, and therefore, that any attempt to remove a *single one* by operation, or other means would be fruitless, and only put the patient to unnecessary pain, hurry the impending fatal catastrophe, and bring discredit upon surgery. I have frequently observed, that in persons of this complexion the usual period of the accession of cancer is anticipated; for instance, I have met with cases of cancer of the uterus in young women of this complexion, from twenty to thirty years of age, and in one case, cancer of both breasts in a child twelve years of age. Two aunts of this girl died of cancer in the breast, and the whole family were remarkable for their anæmic appearance. I have also remarked, that in persons of this complexion assailed by cancer, it always makes an unusually rapid progress, so that I have known instances of women of this appearance die of the disease in four or five months from the time it was first observed. In these persons, it quickly extended from one breast to the other, also into the axillæ, and from thence onwards to the back underneath the scapulæ. While on the contrary, in some persons of a healthy appearance, the cancerous tumour would remain for years almost stationary, unattached to the skin or parts underneath."

---

[*] Feb. 5, 1840.

Mr. Carmichael next establishes or endeavours to establish the analogy between parasitical animals and the malignant depositions.

The very same causes, he observes, which only excite the symptoms of scrofula in the human species, seem to be capable of producing tubercles and hydatids, in the lower animals of the mammalia class. Thus animals confined in menageries, deprived of exercise, are constantly found to be infested with hydatids and tubercles in their various organs. Swine are subject to a disease called in them the measles, which is owing to numerous hydatids of the cysto-cercus species, that is, an hydatid, furnished with a neck, head, and suckers, which infest the muscular flesh and cellular membrane, while they have never been found in the animal in its wild state, when in the full enjoyment of exercise. The dairy cows of Paris, deprived of all exercise, and confined incessantly to sheds, are also infested with both tubercles and hydatids. Sheep fed upon low marshy soils, and in very wet seasons, are particularly liable to hydatids in their brains, and a peculiar animal termed by victuallers, flukes, and by zoologists, fasciolæ hepaticæ. But we can produce at our pleasure, both tubercles and hydatids in animals, by depriving them of the genial influence of the solar rays, of that exercise so necessary for the due performance of their various functions—by permitting them only to breathe a damp unwholesome atmosphere, and by feeding them on inappropriate indigestible aliment. Jenner and Baron have produced hydatids and tubercles in the course of a few weeks, in the lungs and livers of rabbits, by subjecting them to this treatment.

"The various facts therefore, just adduced, all prove that the very same causes which only occasion scrofula in the human species, induce the formation of hydatids and other parasites, intermingled with tubercles in the inferior animals; hence, we have reason to infer that man possesses a greater conservative power against the production of parasites than the other mammalia, and we find that the inferior animals are very subject to the visitation of more perfectly formed parasites in their solid tissues than man—for instance, the cysto-cercus hydatid, furnished with a head, neck, and suckers, so common in brutes, has been very seldom found in man, and the fasciola hepatica so common in sheep, has never been found in the human liver. The simple acephalocyste hydatid, a mere membranous bag, containing a clear fluid invested with its proper cyst, and multiplying by the productions of minute hydatids on its interior surface, is the parasite most frequently met with in the solid tissues of the human species.

The independent vitality of tuberculous and carcinomatous masses, although constantly found intermingled with hydatids in the bodies of the lower animals, and sometimes in the human frame, has not, I admit, been proved; but this view of their nature, accounts in so satisfactory a manner, for all the symptoms and phenomena of these malignant productions, which is not afforded by any other hypothesis, that I can not but regard it as a fact, although not at present admitting of demonstrative proof. On this theory alone, we can account for cancer being sometimes a mere local disease, arising from these local causes which injure the organization of a part—while at other times, it is so obviously a constitutional malady, that any attempt at extirpation in general, only increases its ravages; for, though we should be successful in removing it from one place. it will make its appearance in another. On this principle we can well conceive why the breasts and uteri of women, just having passed the period of bearing children, should be particularly liable to the production of those parasitic animal fungi, at a time when the structure of those organs must undergo some diminution of vitality, in consequence of their becoming useless appendages to the female system. Andral observes, 'there are some entozoa that consist of nothing but a parenchymatous mass, without any perceptible organs.' Now, as he does not state what the entozoa are, to which he thus alludes, I presume he could only mean the tuberculous or malignant masses in question. Doctor Farre in his work upon organic diseases of the liver, gives his opinion without hesitation, that a fungous or medullary form of tubercle of that viscus was in possession of a proper vitality, and developed itself by its own innate powers.

Laennec is equally decided respecting the independent vitality of tubercles, and although opposed by Cruveilhier, Majendie, Lombard, Carswell, and others, I am persuaded, that future pathologists will adopt those opinions. Doctor Baron in his work on tuberculated accretions, is obviously another supporter of this doctrine, which I understand, is every day gaining proselytes, but particularly amongst the searching and indefatigable pathologists and naturalists of Germany, so that I feel in no small degree strengthened in a doctrine which I espoused so long ago as 1806, when the first edition of my essay on cancer made its appearance, and in which I had no predecessor but Dr. Adams, who suggested my theory, though in the details I differed widely from him."

Dr. Carmichael combats the argument advanced against him, that tuberculous matter has been found in the blood: he asserts that it has only been discovered in the veins which have absorbed it.

"Tubercles," as I observed at a meeting of the British Association in 1836, "have no connexion by means of vessels with the surrounding tissues in which they are imbedded. This is apparent from the preparations before you; they are commonly found in regular circumscribed masses. They at first, generally before they undergo any transmutation, have the appearance of semi-transparent vesicles; even those that are opaque, on a close examination, I have often found to be hollow; in fact they are thickened vesicles or cysts. But even should they not present the vesicular form, but appear as solid masses without connexion of vessels with the surrounding parts, I do not see why their solidity should be an objection to their possession of an independent vitality. They may continue in this state for months, nay years, without their presence being suspected. As long as they themselves retain life, they do not occasion any stimulus or disturbance in the parts in which they have their nidus, to throw them off; but when they die they act like extraneous bodies (as we know from the facts respecting the guinea-worm) and occasion local inflammation and general disturbance of the system. They soften afterwards, and if situated in the lungs may be expectorated."

He next passes to melanosis, and to *Medullary Fungus.* He particularly insists that, *this medullary fungus is like pulmonary tubercles impervious to injection, and like them first softens in the centre.* From Medullary Fungus he turns to *Scirrhus.* He notices its varying consistence. In making, he says, a section of a cancerous tumour, and pressing it forcibly in your hand, you will find, in almost every instance, that medullary matter will be forced out in distinct spots on the surface of the section thus made, indicating that it is contained and encircled in the firmer cartilaginous substance of the cancerous mass. This foreign production, whether in the first instance medullary or cartilaginous, begins in a point, and extends from thence like radii from a centre; so that, without being contained in a cyst, it penetrates the neighbouring tissues, extending in that direction where it meets with least resistance. Without the advantage of accurate microscopic observation into the structure of this foreign morbid growth at the very commencement, the difficulty of obtaining which is obvious, we can not say, with any degree of certainty, whether the medullary or cartilaginous substance is the first production. But if it be granted that cancer is an animal fungus, possessed of independent vitality, he would conclude that the medullary substance is the primary formation, and the true parasite, as all agree that it does not admit of being injected; but there is much difference of opinion respecting the admission of injection into the more firm cartilaginous substance, which forms intersections of the carcinomatous mass, and it in consequence exhibits an appearance that has been aptly compared to the section of a radish. Mr. Carmichael has often attempted to inject it, but in vain. If, however, we slice with a knife this morbid structure in a living person, an oozing of blood will follow, which would evince that there is in it a minimum degree of circulation of red blood. Slices, he adds, of those malignant masses, taken from living animals before softening or decomposition occurs, and submitted to microscopic observation, might afford considerable information relative to their intimate structure and true nature. If it is found that the medullary substance is the primary formation, not admitting of injection, and that the scirrhous is secondary, possessing the lowest degree of circulation, it may be presumed that the latter substance is formed by the surrounding tissues to insulate this foreign growth, and is therefore analogous to the cysts which contain hydatids in the fasciolæ hepaticæ in sheep and other animals.

These are the principal parts in the Lecture before us which bear on the hypothesis which Mr. Carmichael so ingeniously advocates. They will be read, we think, with interest by those who are not already in possession of his views.

Dr. Golding Bird on the Employment of the Active Principle of Elaterium in Medicine.*

M. Morrus discovered the existence of a white crystallizable matter in elaterium, a formula for preparing which is given by Soubeiran. Dr. Brett informs Dr. Bird that the best mode of preparing elaterine is to boil the crude drug in alcohol, and evaporate the fine green tincture thus obtained to dryness; a mixture of green resin, with a bitter matter soluble in water and elaterine, is left, and on digesting the whole in a solution of potass, the two former substances are dissolved, and the latter is left in the form of a white crystalline powder. Its taste is bitter, it is scarcely soluble in water, it dissolves in boiling alcohol, and, if in excess, is precipitated by cooling (ʒij. of rectified spirit are barely sufficient to hold one grain in solution when cold); it dissolves in ether in small quantities only; in spiritus etheris nitrici it dissolves with the aid of heat. Water precipitates elaterine from its solutions in alcohol and spirits of nitre, unless it is present in very small quantities; in liquor potassæ it does not dissolve, at least in any appreciable quantity, nor does it appear to yield to the solvent power of dilute acids.

From a series of experiments on the most convenient mode of forming a preparation of elaterine for medicinal purposes, so as to permit its administration in minute doses, the following formulæ were ultimately adopted.

Solutio Elaterinæ.

℞. Elaterinæ, gr. iv. Spiritus rectificati, f℥iv. Solve ope leni caloris, fʒss. Continet gr. 1-16 Elaterinæ.

Pulvis Elaterinæ compositus.

℞. Elaterinæ, gr. iv. Potassæ bitartratis, ʒx. ℈j. Misce accuratissime ℈ss. continet gr. 1-16 Elaterinæ.

After many trials 1-16th of a grain appeared a fair dose to begin with. Given every two hours, two, or at most three or four doses, always proved active, producing copious watery evacuations without griping, or any inconvenience, except in some cases vomiting, where great gastric derangement had previously existed. During the action of the medicine, slight increase in the frequency of the pulse usually occurred, a circumstance generally observed during the administration of Elaterium. Dr. Bird adds; that the elaterine is not liable to the inconstancy of action which characterizes the crude elaterium, and does not produce vomiting or griping.

---

* Med. Gazette, March 13, 1840.

CASE OF CIRCUMSCRIBED ANEURYSM OF THE BRACHIAL ARTERY, AFTER VENÆSECTION, CURED BY PRESSURE. By HENRY JAMES JOHNSON.

Perhaps the following case, when taken in connexion with others of a similar character which have been published, may encourage surgeons in the application of pressure to aneurysms of the brachial artery.

A young gentleman, seventeen years of age, was sent to me by Dr. Graham, of Croydon, on the 7th of July, 1838.

There was a circumscribed aneurysm of the brachial artery, just at the point where the vessel dips under the aponeurotic expansion from the tendon of the biceps. The aneurysmal tumor was oval, and about an inch and a quarter in its long diameter—it was partly covered by the aponeurosis. The pulsation was strong—it ceased totally on pressure of the brachial artery above, and returned with rapidity when that pressure was removed. The sac could apparently be emptied, so that there was no evidence of the existence of coagulum in it.

The cicatrix of a puncture in the median basilic vein, just over the aneurysm, was visible; there was no communication between the cavity of the vein and the aneurysm. There was no indication of high bifurcation of the artery.

The young gentleman was delicate, but did not appear to be otherwise out of health.

He had been bled at Braintree for inflammation of the lungs in the early part of May. The blood "spouted far." There was no difficulty in stopping it, but the arm was bound up very tightly. He first discovered the aneurysm a fortnight afterwards, and it had gradually increased since.

The case appeared a favourable one for the trial of pressure, and the patient, as well as Dr. Graham, was anxious for it.

I began with bandaging the fore-arm, from the fingers up to the bend of the arm. Some stripes of soap-strapping were then put round the latter. Over the soap-strapping, a stripe or two of which were turned with the plaister *outwards*, was placed a pad, laid upon the aneurysm, and secured like the pad of a tourniquet, by a slit fillet. Over all, I applied a roller from the hand to some distance up the arm. The effect of these bandages was not only to compress the aneurysmal tumor, but by the confinement of the hand and fore-arm to diminish the quantity of blood going to them, as well as to exert some degree of pressure on the brachial artery itself.

Low living, rest, and occasional saline aperients, were enjoined.

I changed the bandage daily until the 13th, when I took off the pad. The aneurysm had decreased in size, and the pulsation both in it and in the brachial artery above it was reduced. The pad, &c. were re-applied, and not renewed until the 18th. I had hitherto debarred the young gentleman from meat, but he now felt so low, that I permitted him to take it every other day.

On the 24th, the aneurysm was not half its former size; it was solid to the touch, and the pulsation in it was scarcely appreciable. The thrill in the brachial artery was remarkably diminished. I now allowed him meat every day. The bandages were continued as before.

It would be useless to make any further diurnal reports. Suffice it to say that, in the course of another week, pulsation in the aneurysm had totally ceased —that this progressively diminished in size, and in the course of two or three months could not be recognized—that the brachial artery ceased to present any thrill—that the arm regained its usefulness—and, in short, that the success of the treatment was complete.

I regret, however, to add that last year this young gentleman called on me with unequivocal symptoms of hypertrophy and dilatation of the heart. I can scarcely conceive it possible that either the aneurysm or its cure could have operated in the production of the cardiac disease; though possibly the fright and anxiety consequent on the accident might have done so.

8, Suffolk Place, March 20, 1840.

MISCELLANIES.

PREVITE'S PREPARED CEYLON MOSS.

We have been favoured with samples of this article, prepared with great care by Mr. P. and capable of forming a delicate and nutritious jelly by half an hour's boiling. It becomes sufficiently firm in ten or fifteen minutes after being taken from the fire, and is nearly tasteless. The analysis of it by Dr. O'Shaughnessy, of Calcutta, shews the following composition.

Vegetable jelly	54.50
Fine starch	15.0
Wax	a trace
Ligneous fibre	18.0
Gum	4.0
Sulphate and muriate of soda	6.5
Sulphate and phosphate of lime	1.0
Iron	a trace
	98.55

As far as we have yet observed, this will prove a valuable dietetic article in the sick room.

VACCINATION.

Lord Ellenborough has brought in a Bill, entitled "An Act to extend the Practice of Vaccination," which was read for the first time in the House of Lords on March 12th. We copy the main clauses.

1. Whereas it is expedient to extend the practice of vaccination, be it therefore enacted, &c. that from and after the passing of this Act it shall be lawful for the guardians of every Poor-Law Union in England and Wales, and they are hereby directed, to contract with the medical officers of their several Unions

respectively for the vaccination of all children who may be brought to them for that purpose.

2. That such guardians shall, after consultation with such medical officers, from time to time appoint and give due notice of the appointment of such, and to so many convenient places and times as to them may seem fit, at which such medical officers shall attend to vaccinate all children who may be brought to them for that purpose; provided always that not more than three calendar months shall in any case elapse between the times at which such medical officers shall so attend.

3. That such medical officers shall make a report to the guardians of the several Poor-Law Unions in which they may act respectively on the next day of the meeting of such guardians after every such time so appointed as aforesaid for the vaccination of children, of the number of children then vaccinated, and from time to time shall make such further report with respect to the children so vaccinated, as the guardians of the several Poor-Law Unions, under the direction of the Poor-Law Commissioners, shall require.

5. That every such medical person shall give the like attendance and make the like reports as is and are hereinbefore required from the medical officer of any Union.

Lord Normanby has added a clause, which renders it penal for any non-medical person to inoculate the small-pox.

REGULATIONS RESPECTING ASSISTANT-SURGEONS IN THE NAVY.

By a recent regulation of the Lords of the Admiralty, an Assistant-Surgeon entering the Naval Service after the 1st Feb. is to be appointed by *an acting order*, to be confirmed on the expiration of *one year* from the original date, provided he produces a favourable testimonial of his moral character and attention to his duty, and of his strict and humane attention in the execution of his medical duties, and of his having made diligent use of the opportunities afforded him to improve his professional knowledge, both by study and practice. The certificate to be signed by the *Captain* and Surgeon; if at the hospital, by the *Captain Superintendant* and Physician.—*Naval and Military Gazette,* March 7, 1840.

MR. R. ALCOCK.

We learn that a distinguished honour has lately been conferred upon a member of the profession by the Queen of Spain. By Royal decree the insignia of Knight of the Royal Order of Charles III. has been bestowed upon Mr. Rutherford Alcock, for his services in Spain while Deputy Inspector-General of Hospitals in that country. This is the second most distinguished order in Spain, being ranked next in estimation to the Golden Fleece. We believe that Mr. Alcock is the third member of the medical profession in England who has obtained it. Dr. Hume, the Duke of Wellington's physician, received this honour at the close of the Peninsular war. According to a late history of distinguished European orders of chivalry conferred on British subjects, there are not more than thirty who have received this decoration.—*Medical Gazette, Jan.* 31, 1840.

MONTYON PRIZES.

On a report made by M. Serres, in the name of the Commission charged with the examination of the papers sent in for the concours for the prizes in medicine and surgery on the Montyon foundation, the Academy (of Sciences) accorded gold medals of the value of 1500 francs to Dr. Bright of London, and to Drs. Martin-Solon, and Rayer, for their works on albuminuria or albuminous nephritis; a gold medal of the same value to M. Ricord for his treatise on syphilitic disease; and the sum of 1000 francs to M. Martin for the invention of an artificial leg. *Comptes Rendus*, Dec. 9, 1839.—*Ibid.*

RETIREMENT OF SIR BENJAMIN BRODIE FROM ST. GEORGE'S HOSPITAL.

Sir Benjamin Brodie, after many years of most active and valuable service, has resigned the office of Surgeon to St. George's Hospital. We are glad to learn that his lectures to the pupils of the establishment are to be continued in the same manner as heretofore.—*Med. Gaz.* Jan. 17, 1840.

It is impossible not to appreciate the motives which have led to this resignation on the part of Sir Benjamin Brodie. The extent of his private practice rendered a regular and conscientious performance of his hospital duties impossible, or at all events incompatible with comfort and health. Under these circumstances, he preferred resigning a situation of honour and profit, to filling it inefficiently or doing the work by deputy.

To those who knew anything of Sir Benjamin Brodie, such feelings and such a step could excite little surprise. But the same spirit which could prompt the latter, will, we are confident, urge him on in the path of professional utility. His experience is still given to the pupils of the School of St. George's Hospital in the shape of lectures, and will not, we trust, be withheld from us all in that of distinct publications. There is no man at the present day who enjoys such opportunities for observation as Sir Benjamin Brodie has done, and there is no one, we will add, who possesses in a higher degree the faculty of turning that observation to account.

DEATH OF MR. COPLAND HUTCHISON.

We regret very much to announce the death of this gentleman, which recently took place at Plymouth. Mr. Hutchison was the author of a work on Surgery of considerable value, as well as of various papers in the Medico-Chirurgical Transactions.—*Ibid.*

BIBLIOGRAPHICAL RECORD.

Mr. Van Voorst's Publications.

1. We omitted to notice in the Bibliographical Review, the publications of this enterprising bookseller. There lie before us Parts XV. XVI. & XVII. of the History of British Birds, by William Yarrell—and Parts VIII. and IX. of a General Outline of the Animal Kingdom, by Thomas Rymer Jones. These parts sustain the character of their predecessors, and give additional assurance to those who have purchased the earlier numbers. We cordially recommend them,

2. Observations on the Disorders of the General Health of Females, called Chlorosis; shewing the true Cause to be entirely independent of Peculiarities of Sex. By Samuel Fox, Surgeon. Octavo, pp. 132. Highley, Dec. 1839.

3. The Physiognomy of Mental Diseases. By Sir Alex. Morison, M.D. No. 17. Imbecility. Price 3s. 6d. Jan. 1840.

4. Observations on Disease. By Chas. Lendrick, M. D. Octavo, pp. 23. Dublin, 1839.

5. Medical Portrait Gallery. No. 23. Price 3s. By Mr. Pettigrew. Memoir and Portrait of Galen and of G. J. Guthrie, Esq.

6. The Cyclopædia of Practical Surgery. Edited by W. B. Costello, M.D. &c. &c. Illustrated with Wood-cuts. Part IV. Jan. 1840. Price 5s. Sherwood and Co. 1840.

7. *Phrenology*. Correspondence between the Rev. Sir Henry Thompson, Bart. and W. C. Engledice, M.D. Letter 1, price One Shilling. Letter 2, price One Penny. Letter 3, price Threepence. Portsmouth, 1839.

8. The intimate Structure of the Secretory Glands. By J. Muller, M.D. Translated by S. Solly, F.R.S. With 4 Plates. Butler, London, 1840.

9. Annals of the London Homœopathic Dispensary, No. 31, Ely Place, Holborn. Physician, Dr. Curie. Jan. 1840.

10. A History of British Birds. By W. Yarrell, F.L.S. &c. Part XVI. Price 2s. 6d. Van Voorst, Paternoster Row. Jan. 1840.

11. The Eye. By William Jeafferson, Esq. late Superintendant Surgeon of the Bombay Eye Infirmary, in the Hon. East India Company's Service. Illustrated by Official Reports of 53,359 Ophthalmic Cases, treated by him in that Institution. Renshaw, Strand. 1840.

12. Observations on the Climate of New Zealand; principally with reference to its Sanative Character. By William Swainson, Esq. Octavo, pp. 80. Smith and Elder, 1840.

13. The Principles of Botany, structural, functional, and systematic, condensed and immediately adapted to the Use of Medical Students. By W. Hughes Willshire, M.D. Lecturer on Botany at the Charing Cross Hospital. Octavo, pp. 230. Highley, London. 1840.

☞ *This class-book is very well adapted to the student in medicine.*

14. Animal Mechanism and Physiology. By John H. Griscom, M.D. (One of the volumes of Harper's Family Library, No. 85.) New York, 1839.

☞ *This Treatise is exceedingly well calculated to render the interesting subject of animal mechanism familiar to the general reader.*

15. Twenty-fifth and Twenty-sixth Annual Report of the Directors of the Glasgow Royal Asylum for Lunatics. Jan. 1839. and Jan. 1840.

16. Elements of the Practice of Medicine. By Charles Lendrick, M.D. Queen's Professor of the Practice of Medicine, &c. Part I. Dublin, 1840. Price 3s.

17. The Physiognomy of Mental Diseases. By Sir Alex. Morison, M.D. No. 18. Imbecility. Price 3s. 6d.

☞ *This Fasciculus contains six portraits.*

18. The British Temperance Advocate and Journal. Published under the Authority of the British Association for the Promotion of Temperance. Vol. II. No. 2. Feb. 15, 1840. Price 1½d. Douglas.

☞ *We wish this meritorious publication and attempt every success.*

---

19. A Manual of the Bowels, and the Treatment of their principal Disorders from Infancy to Old Age. By JAMES BLACK, M.D. Small octavo, pp. 240. Longman and Co. 1840.

---

20. The Naturalist's Library. Conducted by Sir WILLIAM JARDINE, Bart. Entomology. Bees. Edinb. and London. 1840.

---

21. A Treatise on the Ear; including its Anatomy, Physiology, and Pathology. For which the Author obtained a Gold Medal in the University of Edinburgh. By JOS. WILLIAMS, M.D. Member of the Royal College of Surgeons. Octavo, pp. 244. With Plates. Churchill, London, 1840.

---

22. A Compendium of Materia Medica and Pharmacy, adapted to the London Pharmacopœia; embodying all the New French, American, and Indian Medicines. And also comprising a Summary of Practical Toxicology. By HUNTER LANE, M.D. &c. &c. Duodecimo, pp. 308. Churchill. Feb. 1840.

☞ *A very meritorious work.*

---

23. Aphorisms of the Treatment and Management of the Insane; with Considerations on Public and Private Lunatic Asylums, pointing out the Errors in their present System. By J. G. MILLINGEN, M.D. Surgeon to the Forces, late Medical Superintendent of the County of Middlesex Lunatic Asylum at Hanwell, &c. Duodecimo, pp. 202. Churchill, London. Feb. 1840.

---

24. Vues Generales sur l'Etude Scientifique et Pratique des Deformités du Systeme Osseux, &c. Par le Docteur JULES GUERIN, Directeur de l'Institut Orthopedique, &c. Paris, 1840.

---

25. Memoire sur l'Extension Segmoide et la Flexion, &c. Par M. GUERIN. 1840.

26. Memoire sur les Caracteres Genereux du Rachelisme, &c. Par le Docteur GUERIN. Paris, 1840.

---

27. Memoires sur les Varietés Anatomiques du Pied-Bot Congenital. &c. Par le Docteur GUERIN. Paris, 1840.

---

28. Memoire sur l'Etiologie Generale des Pieds-Bots Congenitaux, &c. Par le Docteur GUERIN. Paris, 1840.

---

29. Memoire sur les Deviations Simulées de la Colonne Vertebrale, &c. Par M. GUERIN. Paris, 1840.

---

30. Memoire sur Nouvelle Methode de Traitement des Torticolis Ancien. Par M. GUERIN. Paris, 1840.

---

31. Pathological Observations on the Diseases of the Uterus. By ROBERT LEE, M.D. F.R.S. The coloured Illustrations from original Drawings by Mr. Perry. Part I. Price 14s. Churchill. 1840. Four coloured Plates.

---

32. On the Influence of Artificial Light in causing impaired Vision; and on some Methods of preventing or lessening its injurious Effects on the Eye. By JAMES HUNTER, M.D. Surgeon to the Eye Dispensary of Edinburgh. Laing and Forbes, Ed. Octavo, pp. 96. With plates. Price 3s.

---

33. Rudiments of Animal Physiology. For use in Schools, and for private Instruction. By Dr. G. HAMILTON, of Falkirk. (Chambers' Educational Course.) Octavo, pp. 104. W. & R. Chambers, Ed. 1840.

☞ *This little volume is extremely well calculated to convey sufficient information to the general reader on the various points of structure and function in the animal economy of man in particular.*

---

34. Transactions of the Medical and Physical Society of Bombay. Vol. II. 1840.

---

35. Practical Observations on Distortions of the Spine, Chest, and Limbs; together with remarks on paralytic and other diseases connected with impaired or defective motion. By WILLIAM TILLEARD WARD, F.L.S. 8vo. pp. 202. Renshaw, Strand, 1840.

EXTRA-LIMITES.

CITY OF LIMERICK INFIRMARY.

The two following cases of Compound Fracture of the Skull may prove interesting to some of your readers; tending, as one of them does, to shew the amount of injury the brain and its coverings may sustain, without any permanent bad consequences in the young subject, when compared with the result of similar injuries in the adult. It may appear to some, that if the operation of trephining and raising the depressed bone had not been resorted to at so early a period in Lynch's case, the result would have been different. However, I conceive that the rule of practice adopted in the case, (and which is generally adopted in this part of the country, where injuries of the head are accidents of very frequent occurrence) was the most advisable; namely, not to wait for the supervention of bad symptoms in cases of compound depressed fracture occurring in adults—where the depression is so considerable that its presence must cause inflammation of the dura mater, or of the brain itself—but to raise the bone as soon as possible. At the same time, in cases where the depression is not so great, although the symptoms of compression may be urgent, I believe the best practice is to try if such symptoms may not be caused by the effusion of blood on the dura mater, and not to interfere until the effect of other treatment has been tried.

It is no easy matter to define the amount of depression of the bones of the skull, which would lead the practitioner in one case to elevate it, and in the other to wait for symptoms to guide his treatment; but I would say, that the extent of depressed bone would not influence me so much as the depth to which it is forced on the brain; and that, generally speaking, in adults where the bone is so much depressed beneath the level of the uninjured bone that an elevator or some such blunt instrument could be easily introduced between them, I would at once elevate without waiting for symptoms of compression, should such not be present at the time.

Such was the treatment adopted in Lynch's case, and although the result was unfavourable; yet I conceive it afforded the best chance of success, as until the bone was elevated I was unaware that the dura mater was torn, and the substance of the brain injured—and he had not at any period symptoms of inflammation of the brain or its coverings.

In the young subject, however, I have seen several instances of very extensive depression of the bones of the skull, where recovery took place without any surgical interference; the bone gradually assuming nearly its natural level according as the cranium expanded.

Compound Fracture of the Head.

Thomas Lynch, 24 years of age, was admitted October 2nd, 1838; the previous night he received a blow of a watchman's pole, (which had an iron ferule on its end) on the left side of the head, which knocked him down, inflicting a lacerated wound of the scalp, and a depressed fracture of the left parietal bone—the wound bled rather profusely, but he quickly recovered the shock, and was not brought to hospital until late the following day. A consultation was soon held, and the bone being much depressed, the unanimous opinion of the other surgeons of the hospital was that the bone should be elevated without delay, although at this period no urgent symptoms existed. I found it necessary to remove with the trephine about three-quarters of a circle of bone to enable me to raise the depressed pieces which were forced through the dura mater, &c.—the lips of the wound were brought together by suture—evaporating lotions ordered to the entire head, and aperients given. He slept well the two following nights—the pulse 62. Bowels regular.

October 6th. Makes no complaint of pain of the head; his pulse is less frequent the last day or two, only 46. He was ordered calomel and antimonial powder, and a blister to the nape of the neck—the wound appears to be united.

October 9th. Pulse 50. Some purulent discharge from wound—sleeps well, tongue clean, complains of numbness of his right hand.

Oct. 11. Pulse 50. The wound seems raised, as if by a fungus, and about to open where united. Mouth not sore.

12th. Lynch was suddenly attacked this morning by a fit of insensibility, and became incoherent—his tongue is partly paralysed—the fungus is not much more raised—during the two following days he continued nearly insensible, his extremities cold, and the right side of his body became entirely paralysed—the fungus cerebri burst through the wound and rapidly enlarged—he then recovered his consciousness in a great measure.

Oct. 20th. The fungus, which at this period was the size of a small orange, sloughed away to the level of the bone—he is perfectly sensible, but cannot articulate—his appetite is very great—he does not wait to be fed, when he sees food, but seizes it with the hand he can command.

26th. He became again insensible this morning—appeared to be on the point of dying—he however quickly rallied.

29th. The cornea of the right eye has gradually become opaque, within the last few days—a bad sore has formed over the sacrum.

November 9th. The external ear of the same side has been attacked by gangrenous ulceration, which quickly destroyed it—the eye has become staphylomatous—he eats and drinks with great voracity, and knows every attendant—the fungus cerebri re-appeared once or twice, and sloughed—the discharge from the head has been profuse—he however lingered until the night of the 14th November, when he died. No opportunity was had of making a post-mortem examination.

COMPOUND FRACTURE OF THE SKULL.

Patrick Farrell, aged seven years, was admitted 17th January, 1839. Two days before he received a kick from a horse on the forehead, which caused a lacerated wound over the left eye, and an extensive fracture of the frontal bone, with considerable depression—he complained of pain in the wound—his tongue was white, pulse quick—but had no urgent symptom. The head was directed to be shaved, and evaporating lotions ordered.

20th. Going on well—a small quantity of what appeared to be dura mater was removed from between the fractured bones—at each dressing, for some days after, some of the brain came away through the same opening, his general health, however, continued tolerably good—granulations began to shoot up from the depressed bone, and the surrounding soft parts—the wound gradually closed in.

February 15th. A piece of dead bone was this day removed, and subsequently three or four large pieces were taken from under the loose granulations which filled the wound. The pulsation of the brain now became evident—the boy was discharged well on the 25th: altogether about the size of a half-crown piece of both tables of the skull was detached during his stay in the hospital.

CASE OF ANEURISM BY ANASTOMOSIS.

Thomas Kenny, 19 years old, of sickly appearance, presented himself with an ulcer over the second phalanx of the second toe of his right foot; the ulcer was about the size of a shilling, covered with loose, fungous granulations not very painful, the surrounding integument was of a purplish colour; it bled freely on the slightest touch or attempt to walk; a probe passed through the granulations easily reached the bones of the toe which were evidently diseased. Under the same toe a tumour nearly as large as a hen's egg appeared, which extended from the point of the toe to the articulation of the phalanges and metatarsal bones; it had much the appearance of an abscess, and had previously to his becoming my patient been punctured by a lancet; but the rapid flow of arterial blood rendered it necessary to close the puncture quickly. The patient's attention was not drawn to the tumour until after the appearance of a small swelling on the dorsum of the toe, which he conceived to be a corn and scraped with a knife; this never healed, but gradually enlarged during the last two months, which obliged him to seek relief. The tumour was partially compressible, nearly of the colour of the skin, conveyed a peculiar vibratory pulsation to the finger, synchronous with the pulse; the anterior tibial artery on the dorsum of the foot had a similar feel, and pulsated more strongly than usual, as did the peroneal also; pressure on those arteries partially diminished the pulsation in tumour. In consultation it was decided to remove the toe at its articulation with the metatarsus, together with the tumour as far as practicable.

Accordingly, on the 6th April, 1836, I made rapidly two incisions which met at the articulation, which fortunately was immediately opened, and the toe and tumour removed. Ten or twelve arteries bled smartly—they were secured and the flaps of the wound brought together, and cold applications used.

April 9th—there was some oozing of blood, which was easily arrested by cold; it however returned the following night, and became so profuse as to oblige me to remove the dressings; four or five arteries were bleeding from the flap next the great toe. I found it impossible to draw them out and tie them separately, and therefore introduced an armed needle into the angle of the wound, and included in the ligature that flap with the vessels. From this time there was no return of hæmorrhage; the wound granulated kindly, and the patient's general health improved.

May 7th. The report states, that a small swelling has appeared near the upper angle of the wound, at the side near the third toe, which pulsates feebly; the wound cicatrized, and he was discharged well on the 23d May. This young man called on me about two years after the operation; he lived in an adjoining county—enjoyed excellent health, and has had no return of the disease.

CASE OF GANGRENE OF THE LUNG.

Michael Sullivan, a strong muscular man, but of intemperate habits, was admitted April 10th, 1838. He stated that, nine days before (while in a state of intoxication) he was severely beaten in the County Kerry, and that on the following day he was attacked with cough and pain of chest, for which he was blooded, with temporary relief. It would appear that no further treatment was adopted until he was brought to hospital, having become much worse in the interval. On admission he complained of very severe pain of his right side and cough; the expectoration was scanty and dark coloured, occasionally streaked with blood, and the fetor was peculiarly disagreeable; the respiration was quick and oppressed—pulse feeble and rapid, his countenance pale and swollen; he lay on his back and breathed loudly through his nose. The entire of the right side of his chest sounded dull on percussion, respiration inaudible—the left lung appeared healthy. Two or three trifling lacerated wounds were visible on his face, and his lower lip was divided—there was also a contusion over the second and third ribs on the right side. The feeling of suffocation and debility increased rapidly, and he died early on the morning of the 17th April. On examining the chest, the lung appeared to be nearly in all parts adherent to the pectoral parietes by means of recently effused lymph. On raising the upper ribs, a gangrenous cavity of the size of a half-crown-piece was opened accidentally, owing to the close attachment of one of its walls to the rib—its cavity was filled with a dark greenish fluid of extreme fetor—it was circumscribed, and corresponded to the mark of contusion on the skin covering the ribs, which were unbroken—there was a similar cavity, but of much greater size, on the surface of the lung lower down, which communicated with some of the bronchial tubes; its contents were similar to that of the other—the remainder of the lung was of a fleshy consistence, of a dark purplish colour—it did not crepitate on pressure; the left lung presented a tolerably healthy appearance, the heart and the abdominal viscera were in a perfectly normal state.*

CASE OF GUN-SHOT WOUND OF ARM, FOLLOWED BY GANGRENE. AMPUTATION AT THE SHOULDER JOINT—SECONDARY HÆMORRHAGE—SUCCESSFUL LIGATURE OF THE SUBCLAVIAN ARTERY.

THE following case has been communicated to us by Mr. W. W. Stafford of Hailsham, the gentleman under whose care it occurred, and to whose credit it redounds. We have much pleasure in inserting it.

July 25th, Abraham Prodger, aged 17, a healthy lad of a robust constitution, who had lived sparingly for some months past, was incautiously drawing a gun from a hedge, in which he had previously placed it, when a bough caught the trigger and discharged the contents, consisting of several pieces of cut lead, through the right arm, entering at the inner edge of the biceps muscle about two and a half inches below the axilla and neck—in its escape at the posterior edge of the deltoid within an inch and a half of the acromion process, having passed at the inner side of the humerus. The bone was not injured—the hæmorrhage considerable. A friend of mine, Mr. Holman, happened to be near the place at the time of the accident, and immediately placed a compress on the artery above the wound, and a simple roller tightly round the arm from the shoulder downwards to near the elbow—sensation in the hand and arm was perfect, but no pulsation of the artery could be felt at the wrist. The degree of collapse was not very considerable, and re-action took place in the space of four hours after the accident, unattended by hæmorrhage. About this time I saw him, the arm and hand slightly swollen and rather inclined to be cold—gave him a little brandy and water, an anodyne draught, and ordered the arm to have warm flannels constantly applied, but this was not strictly attended to. 26th. Has passed a tolerable night—pain and fever slight—bowels costive—sensation complete—limb warm—but no pulsation could be felt—gave him an aperient, and ordered a continuation of the warm flannels. 27th. Rather agitated from the fear of an operation being required—countenance somewhat anxious—tongue white and moist—pulse quick, full and incompressible—slight heat and dryness of skin. The limb discolored and cold fingers, livid and stiffened—the cuticle desquamating at several places on the arm—sensation gone—skin tense and hard—crepitation on pressure. I cut the bandages, and a quantity of air escaped from the wound—fætid discharge from the orifice—opium, camphor and ammonia, given every three hours, also wine and good broth. 28th. Tongue white and moist—pulse quick, more feeble, and rather compressible—countenance anxious—bowels confined—skin hot and dry. The gangrene appears to be spreading rapidly. Shoulder considerably swollen—the tumefaction is greatest on the inner side of the deltoid, where there is great discoloration and crepitation, extending above the clavicle, but neither the deltoid or pectoral muscles appear to be implicated, merely the cellular tissue—stale beer grounds poultice, &c. applied to the whole of the shoulder—the opium, &c. also wine and broth, continued *constantly*. 29th. Countenance anxious—pulse quick, feeble and easily compressed—tongue white and moist—dryness and increased heat of skin—bowels costive—passed a tolerable night. A line of demarkation is seen extending round the arm just above the wound—the discoloration above the wound not more extensive than yesterday, and less distinct. Gentle aperient, rep. pilul. &c.—wine every hour.

---

* Since putting this Article to press, we have discovered the omission of the name of the Surgeon to the Infirmary, who treated and has communicated the preceding cases. The Letter containing it has been unfortunately mislaid.

30th. Countenance much more cheerful—face rather flushed—tongue thinly coated with a brownish colored mucus—pulse small, quick, and not easily compressed—slept at intervals during the night—skin rather hot. The discoloration above the wound almost disappeared—crepitation diminished—swelling round the joint decreased. Rep. pilul. wine and broth.

31st. No discoloration can now be perceived above the wound—swelling diminished—pulse much as yesterday—skin comfortable—tongue moist and brownish at the base—bowels rather confined—countenance free from anxiety. Having the line of demarkation complete, discoloration and crepitation above the wound gone. I determined on the operation of amputation at the shoulder-joint, which, in the presence of my medical friends, I performed in the following manner. A semilunar incision was made on the external part of the shoulder, including nearly the whole of the *deltoid*, and terminating just above the insertion of that muscle. The flap was turned up, leaving the upper part of the humerus and part of the acromion bare. An assistant now rotated the arm, and the head of the bone being felt, the capsular ligament was divided; the head of the bone was then raised from the glenoid cavity by depressing the extremity of the humerus. The operation was then completed by cutting round the articulatory surface of the head of the bone, and dividing the remaining ligament, muscles, and integuments, terminating the incision in the axilla. From six to eight ounces of blood were lost during the operation; the arteries being secured and the parts brought together by sutures and adhesive plaster, a pad of lint, several times folded, was placed on the flap, and steady pressure made by the hand, but hæmorrhage having recurred to about three or four ounces, the dressing and sutures were removed, and the surface of the wound again exposed; several coagula were removed, a small artery was then tied, and the wound kept constantly sponged with cold water. As soon as the bleeding had entirely ceased, the wound was dressed as before, and steady pressure was made by the hand for seven or eight hours after. No bleeding occurred—some wine was administered during the operation, and a few minims of sal volatile. Three glasses of wine were given afterwards during the day, also mutton broth, &c. &c. The countenance was rather blanched, and the pulse feeble. The boy slept comfortably after the operation—re-action took place in the space of nine hours. Clammy sweats during sleep. Pulv. opii gr. i. h. s. s.

August 1st. Slept tolerably during the night—tongue moist, and of a brownish coloured base, countenance rather blanched, pulse quick and rather fuller, skin tolerably comfortable—smart pricking pains are felt in the shoulder—bowels confined. Evening. He became very restless and irritable, skin parched and hot—cold sponging from head to foot was used, this was shortly succeeded by a sound and refreshing sleep—diet the same as yesterday.

5th. Pulse somewhat sharp, not so easily compressed, tongue coated, bowels open, pain in the stump increased, a pretty healthy discharge of pus from the wound. Passed a good night.

6th. General health good—discharge increased—some of the dressings removed, and fresh ones applied, as they were becoming fœtid—adhesion had taken place to a considerable extent, and the wound looked exceedingly healthy—diet, meat, wine, beer, &c. &c.

12th. About midnight complained of severe throbbing pains in the shoulder, and sensation of great tension, which symptoms were succeeded by a flow of blood mixed with pus and a large quantity of serum. The subclavian was immediately compressed, and the hæmorrhage very shortly after subsided—it was not deemed necessary to compress the artery but for a very short time after the cessation of the bleeding—the loss of blood was inconsiderable—on removing the dressings, the wound appeared very healthy, and its edges were tolerably firmly united by the first intention and by granulations. General health good, countenance not blanched, pulse a little diminished in force—omit the wine.

13th. No recurrence of hæmorrhage, granulations paler, a very small quantity of a sanious discharge exudes by the side of the ligatures at the upper part of the wound, discharge of pus rather diminished, but healthy; general health good, but he feels the loss of his wine. Slept well. 14th. Much the same; resume the wine with a more generous diet. Applied fresh strapping to the wound. 16th. General health good—very cheerful, and has more power. Granulations have regained their redness—the wound cicatrizing—discharge not copious, and seems to procced almost entirely from the surface. The flap feels firm, as if perfectly adherent. 17th. Continued doing well till towards evening, when a throbbing pain took place, accompanied by a sensation of heat and tension. About eight o'clock, slight hæmorrhage occurred from the lower part of the wound to the extent of ℥ss. of arterial blood, which speedily coagulated—the boy much agitated, pulse quick, but not feeble, bowels confined—the wound sponged with cold water; an aperient administered. 18th. No sleep during the night, throbbing pains continued till six o'clock a.m. when a slight discharge of blood, ℥ss. mixed with pus, took place—this relieved the pain. Pulse quick and compressible, skin rather hot and dry, tongue slightly coated, bowels confined. Pil. rhei comp. gr. x. h. s. s. 19th. Passed a good night, free from pain, discharge of pus free and healthy, bowels open, pulse quiet, seems much more composed—the dressings were removed, and the wound presented a healthy appearance, and rapidly cicatrizing—the granulations at the lower part have risen considerably above the surface, and are rather spongy. A small spot of coagulated blood is observed at the apex of one of the granulations, which led me to suppose the hæmorrhage had arisen there. Applied the argent. nit. and pressure by strapping and simple bandage—the ligatures remain firm. 20th. Doing well. 21st. At one a.m. complained of heat and throbbing pain at the shoulder, which was shortly succeeded by a sudden and full stream of blood flowing by the side of the ligatures to an alarming extent—pressure on the subclavian was made by the boy's mother as soon as possible. I found him in a state of extreme collapse, the extremities cold, countenance and lips blanched, respiration hurried—delusions at intervals—"singing hymns, endeavouring to frighten crows by bawling loudly"—pulse very weak, quick, scarcely perceptible—a dose of opium and a little wine, bottles of hot water to the feet, and constant pressure on the subclavian, from 20 to 25 ounces were lost—towards the afternoon re-action took place, accompanied with very slight hæmorrhage, owing to the compress having been a little slackened—this was immediately restrained by pressure on the subclavian artery. I then cut down on the artery above the clavicle, and secured it—very little blood was lost during the operation. The boy was very much exhausted—a glass of wine, and pills with opium, camph. and am. sesq. carb. were given statim—there is a discharge of healthy pus, and the wound looks exceedingly well. 22nd. Slept well during the night—about eight a.m. a small quantity of blood issued from the stump, suppose ℥ij. but was soon stopped by applying cold water—the shoulder was quite warm, spirits good, and countenance more natural than yesterday—pulse small, quick and feeble, tongue white, great thirst. Evening. Skin dry, retching on attempting to swallow any thing, with slight hiccough—air is expelled from the stomach at the same time in large quantities, has kept nothing on the stomach but a few spoonsful of milk—pulse very quick and sharp, bowels costive, pulv. opii h. s. and mustard poultice to the pit of the stomach till it produced a tingling. 23rd. Passed a pretty good night, and retained a cupfull of milk on the stomach—had very little retching or flatulency, pulse 100 and sharper, skin comfortable, countenance without anxiety, tongue white, slight aperient given, and potass. citratis occasionally. After the bowels were relieved, pills with opium, camph. and am. were administered. Evening. Pulse and tongue much the same as in the morning. No retching or hiccough—has taken two teaspoonsful of wine and a few spoonsful of milk and isinglass jelly since morning, repeat the pills, h. s. 24th. Passed a good night. Tongue the same as yesterday, pulse not so sharp, no sickness or hiccough, throbbing of the carotids. Retains his food, bowels confined, skin comfortable, and countenance free from anxiety, stump considerably reduced, one ligature away, granulations sunk below the surface and pale, with a sanious discharge by the side of the ligatures. Lotio nig. pressure by bandages round the stump—jellies, broth, and small quantities of wine and beer. 25th. Slept well, tongue white and moist, pulse not so quick or sharp; circulation much more tranquil, carotids quiet, countenance rather anxious, disposition to sloughing in the stump, and a sanious fætid discharge. Appetite impaired, less flatulence, retains his food, skin moist, thirst much abated, complains of cramp about the left arm and leg. Bowels confined—lotio acid. nit. to the stump, pil. rhei comp. gr. x. statim sum.—ext. gent., am. carbon. gr. v. ter die cap. Food and wine continued as yesterday, but did not take so much.

26th. Tongue clean and moist, anxiety of countenance, sickness and flatulence very much diminished, bowels once open, slept well, and expresses himself much better. Appetite improved, pulse not so quick as yesterday. Granulations beginning to rise, and are much more vascular—a discharge of healthy pus from the stump—a little fætid discharge from the neck. Evening. Pulse quicker and sharper, no fever, a little throbbing of the carotids—granulations evidently improving—has taken meat, beer, and brandy and water, retains them without sickness or any unpleasant symptoms. 27th. Slept very well—tongue clean and moist, pulse quick, feeble, and less sharp—bowels confined—appetite improved, countenance tolerably cheerful—feels stronger—a discharge of healthy pus from the stump, granulations vascular and increasing, wound healing, a small sinus in the direction of the ligatures is formed. The remaining ligatures of the stump away, and the boy complained of a pricking sensation in the fingers when they were pulled—the wound above the clavicle was dressed, and the greater part has healed by first intention—a slight healthy puriform discharge escapes from each end.

The ligature of the subclavian came away on the 2nd of September, after which both wounds rapidly healed, and in the course of a fortnight the boy was able to sit up in a chair, and in another week came down stairs.

CASE OF RUPTURE OF THE AORTA, WITHOUT ANEURISM. By *Edward H. Weale*, M.R.C.S.L. Assistant Surgeon Royal Naval Hospital, Plymouth.

CASES of rupture of the aorta, without aneurism, are of such unfrequent occurrence, more especially when not attributable to external violence, that I am induced to offer for insertion in your Journal, the particulars of a remarkable case, which I had an opportunity of examining *post mortem*, a few days since, in conjunction with my friend Mr. Stewart, of this town, who was the medical attendant of the patient.

Some points in the early history of this case are deserving of notice, and shall be related as briefly as possible. The account of the symptoms precursory to death is nearly verbatim from the recital of Mr. Stewart.

Mr. C———, about 60 years of age, of a very full habit and who had passed his life in an active employment, and in the enjoyment of excellent health, whilst walking some distance from home about a year since, was attacked with very severe pain in the calf of the left leg, which prevented him from returning to his house without help. Mr. Stewart was requested to see him, and found the part tumid, but not inflamed. The tongue soon became greatly swollen, the fauces red, and articulation difficult and much impaired. Supposing that these complaints were symptomatic of some cerebral affection, active means were directed for its relief; and with such success, as to enable him, after a while, to resume his usual occupations, but difficulty of speech, and partial loss of power of the left extremities were permanent. He had lately suffered some severe reverses and consequent depression of spirits. On the 21st of November, about 5 p.m. Mr. S. was sent for; on his arrival, he learnt from Mr. C. who lived a little way in the country, that he had been seized with violent pain in the knee, about 12 o'clock, whilst he was in town, which was so great that he was unable to return home without the assistance of his son; and on reaching his house, while lifting his hand to raise the latch of the door, he experienced "a violent snap," succeeded by great pain between the scapulæ, and a sensation of oppression and fulness. The pain increased in intensity until Mr. S. saw him, when he found him labouring under great restlessness; indeed, so much so that he could scarcely remain still while his pulse was being felt, which was labouring and unequal in volume, but not in frequency. He could take a full inspiration, which increased the pain between the shoulders, and he expressed himself as enormously distended with flatus. An aperient was prescribed, and he promised to call again at ten o'clock, at which time Mr. C. was in bed, and had had a few minutes sleep whilst lying on his back, but the restlessness continued. He was tossing about and said that he could find no relief in any posture, and appeared just the same in every respect as at the first visit. That some large vessel in the thorax had given way Mr. S. did not entertain a doubt, and on calling next morning, he was informed that his patient expired "after two or three gasps," soon after he had left him.

Sectio Cadaveris.—The body was remarkably fat, and the face was of a waxy exsanguined aspect. The veins of the neck and anterior part of the thorax, presented the varicose condition, so often attendant on cardiac disease. On section the pericardium was found to contain nearly a quart of semi-coagulated blood, which had escaped from a lacerated opening, about three quarters of an inch in length, on the right and rather posterior part of that portion of the aorta which is covered by the pericardium, and where it emerges from behind the pulmonary artery. The serous membrane surrounding the origins of the great vessels—particularly posteriorly, presented a livid ecchymosed appearance, from the effusion of blood into the subjacent cellular tissue, to such an extent as to give to the aorta a sacculated form, which at first led to the idea that there was an aneurism of that vessel. The heart and its great vessels were carefully removed, for the purpose of a more accurate examination. On introducing the finger into the laceration, it did not find its way into the cylinder of the artery, but merely moved in a sac (containing recent clots) formed by the separation of the external and middle coats. The source of the hæmorrhage was not discovered until the artery was laid open from the left ventricle, when a small transverse opening, barely large enough to admit a quill, was observed immediately behind a semilunar valve, and close to the mouth of the posterior coronary artery. At this spot there was not the slightest indication of ulceration nor erosion, but simply a rent in a part of the vessel, which is naturally thinner than other portions of the trunk. Through this fissure the blood must have escaped, and dissecting off the more elastic external coat to such an extent as to produce the appearances before described, at length ruptured that tunic and filled the pericardium. The calibre of the artery was increased, and the lining membrane was here and there raised from the middle coat by atheromatous matter, mixed with gritty particles. It was so soft as to be scraped off without difficulty by the finger nail. The fibrous tissue had lost its elasticity, and could be torn by the most moderate force. The arteria innominata, left carotid and subclavian were very large, but not apparently diseased. The left ventricle was enormously hypertrophied; its wall being nearly two inches in thickness. The valvular apparatus was healthy. The lungs and abdominal viscera were quite normal.

It is probable that the rupturing of the internal coats of the artery took place when the patient felt the "violent snap," and that the external one was lacerated at some short period before death. The pain in the leg is a singular feature in this case. But in a case of extensive abscess of the right anterior lobe of the brain, which I examined a short time since, the convulsions which occurred frequently during the patient's illness, were usually ushered in by a sensation of numbness and pain in the calf of the left leg, extending up the side.

The inconveniences generally attendant on cadaveric inspections in cases occurring in private practice, and the unwillingness on the part of relatives to have such pursued with that strictness essential to advances in pathology, must, in many instances, prevent medical men from arriving at important truths. In the present instance we were not able to examine the head, although the patient had suffered from the paralytic affection before mentioned.

In some cases of apoplexy which have occurred to my observation within a few years, the arch of the aorta has in general been found deprived of its normal elasticity, sacculated, and the seat of atheromatous and sometimes bony deposits; while the coats of the vessels of the brain, (where we were able to trace the hæmorrhage to its source) were loaded with gritty particles of a similar nature to the matter in the aorta. That sudden death, from the bursting of a large artery where there is no actual aneurismal dilatation, may occasionally occur, without detection, is far from improbable, and such an event may be attributed to a recurrence of apoplexia cerebri, when arterial disease in some other part of the system may have been the cause. Hypertrophy of the left ventricle is also a frequent concomitant, and though itself perhaps secondary to the arterial disease, produces a fatal result by its powerful reaction on a weakened circulatory system, as was probably the case in the present instance.

MR. REID'S CASES.

Mr. Reid, a highly intelligent surgeon of Glasgow, has forwarded to us the following cases, which we have pleasure in inserting.

I. CASE OF PURPURA.

Alexander Gray, turner, aged 27, married, of good constitution and in comfortable circumstances, consulted me on the evening of the 10th April, 1839, after leaving his usual employment. He complained of severe muscular pains in various parts of body, sore throat, languor, thirst and disinclination for food. Pulse 70. Tongue covered with a thick yellow coat. Bowels constipated. Skin natural. No head-ache. Had a rigor three days previous to application. I ordered him an emetic of tart. antim. in divided doses to be followed early in the morning by a purgative of calomel and pulv. jalapæ comp.—11th April. I visited him at mid-day, when, in addition to the symptoms noted yesterday, my attention was directed to the gums, which were swollen, of a dark colour and painful; to the breath, which was very fætid, and to an eruption of petechiæ over both tibiæ. The spots were of a bright red colour, not larger than split-peas—existing in clusters but not confluent, and having no perceptible elevation of cuticle. He likewise complains of pain in knee and elbow-joints, and is very restless. Pulse 90. As the purgative did not act freely, he was ordered a sol. of sulph. magnes. to be repeated towards evening. 12th April. During the night he had two scanty watery stools, which were very dark and emitted a most disagreeable odour. Is compelled from the severe pain of the spine and joints to lie fixed in one posture on his back—has had no sleep during the two preceding nights—is very anxious and alarmed at his present condition and complains of præcordial oppression. The knee and ankle of right leg are considerably enlarged and painful on pressure, and the corresponding foot is œdematous. Pulse 120 strong. I took 24 ounces of blood from his arm and prescribed vin. colchici in large doses, in order to induce purging as well as its anti-rheumatic effect. 13th. The blood drawn yesterday has a very thick buffy coat, is cupped and firm. Has been purged severely, the fæces however still retain the same characters. Can turn better in bed and expresses himself as being a little relieved. Pulse is reduced in frequency and strength. A few livid petechiæ have appeared over the sacrum. The colchicum was continued with the addition of a small quantity of tinct. opii. 14th. Mr. Wm. Lyon, one of our hospital surgeons, visited the patient this afternoon, when he exhibited the following appearance. The face was shrunk and sallow—he was wakeful and restless, though from the violent pain of joints he was unable to turn in bed without assistance. Has no difficulty in breathing nor pain on pressing abdomen—the petechiæ over tibia were fading, those on back enlarging—pulse 110, rather weak—tongue white—gums spongy and separating from the incisors—breath still very disagreeable. Calomel and opium was substituted for the former medicines. 15th. The case has within the last ten hours assumed a most alarming aspect. Two large patches of deep ecchymoses have appeared on right cheek, which has become much swollen, painful and hot to the touch, as if occasioned by hard blows. Blood is extravasated beneath the conjunctival covering of left eye-ball, and also under the mucous surface of lower lip towards the angle of the mouth; the gums bleed on the slightest touch, the fauces are of a deep red, and the fætor of the breath is intolerable. The spots on his back are as large as a shilling, and new ones are forming on every part of the body and upper extremities. Has had two stools mixed with blood, and his urine, though transparent on being voided, soon becomes turbid and exhales a fætor as disagreeable as the fæces. Pulse 120 very weak. Rheumatism a little diminished. The calomel and opium, of which he had only taken two pills, were discontinued, and he was ordered wine, quinine and acetate of lead, with acetic acid and water for drink.

From this date the symptoms progressed in intensity, until the patient gradually sunk; no hæmorrhage having taken place during the whole course of the disease with the exception of the small quantity noticed above. The appearance of the patient three days before death was frightful from the enormous tumefaction of the features. The face was double its natural size, partially covered with several effusions of black blood into the subcutaneous cellular tissue, while the interjacent spaces were of a dark red colour, and the blood in these seemed to be confined to the cutis. The gums were removed by ulceration, laying bare the alveolar processes; sloughs were separating from the inside of cheeks, and although every attention was paid to cleanliness and ventilation, the effluvia emanating from the patient had so impregnated the atmosphere of the apartment as to render it scarcely bearable. The livid spots on the body have become confluent, and those on back are again coalescing with those on the chest and belly. The penis and scrotum are one mass of discolouration. There are no deep ecchymoses on the body similar to those existing on the face. The original petechiæ on the legs have completely disappeared. He expired quite intelligent at 4 o'clock on Wednesday afternoon, the 24th of the same month. Besides the medicines mentioned in the report, the patient, during the course of his treatment, had repeated purgatives with drinks acidulated with the mineral acids —large doses of the hydriodate of potass, and occasional opiates.

Dissection.—The relatives of the patient prevented the examination from being as minute as we would have wished. The organs contained in the thorax were all healthy in their texture; on the pericardium and beneath the pulmonic and thoracic pleura, however, there were numerous effusions of black blood, about double the size of the petechiæ occurring in fever. In the abdomen several spots having the same appearance were situated under the peritoneal covering of the parietes, liver, stomach and intestines. As Professor Thomas Thomson had kindly promised to analyze the blood, Mr. Lyon and I were both desirous of obtaining a sufficient quantity to enable him to prosecute the enquiry, but we were much disappointed, after using the utmost care and opening every internal blood-vessel of any consequence, at being able to collect only about two ounces.

I have considered it unnecessary to enter into the details of the case after the few first days, as the practice, being founded on no true pathological knowledge of the disease, was much varied: the symptoms becoming equally aggravated under venesection and the depressing effects of colchicum as under tonics and a liberal allowance of wine. The most remarkable features in this case were the acute rheumatism of the joints—the *pain, heat, redness, and swelling* of the face attending the purpuragic ecchymoses—the small quantity of blood found on inspection, though next to none had escaped from the mucous surfaces—and the great extent of the sanguiferous effusions under the cuticle causing permanent discolouration of more than half of the body. Several of the circular petechiæ on the body, when about the size of a half-crown piece, presented a novel phenomenon in their enlargement. Immediately in contact with their circumference the cuticle was elevated into white prominent rings, having exactly the appearance of the wheals in urticaria, and receding before the extending petechiæ. No fluid, similar to that obtained by Mr. Plumbe from the white protuberances of nettle-rash, exuded when the cuticle of these rings was punctured. This circumstance, together with the pain and heat of the face, plainly indicated a *local* excitement of the cutaneous vessels; but as these symptoms were preceded by the ecchymoses, they must be considered the effects not the causes of the effusions.

Dr. Thomson found that the blood sent him contained all the ingredients of healthy blood, though from the small quantity he was unable to determine whether they existed in the relative proportions of natural blood.

II. Poisoning by Corrosive Sublimate.

May 6th, 1839, I was suddenly called to visit John Ross, aged 15, dyer, this evening, at 9 o'clock. I found him in bed in a crowded room vomiting, with violent efforts and pain, a frothy viscid mucus mixed with blood. He complained of great thirst, very disagreeable taste in mouth, burning pain and tightness of throat, and deglutition is attended with spasmodic contractions of the œsophagus and of the deep-seated muscles of the neck. The burning pain extends down the gullet into the stomach and bowels, and immediately before and during the act of vomiting, the pain becomes of a tearing nature, and is frequently accompanied with an inclination to purge. Belly is contracted and very tender to the touch. Has slight cramps in his legs. The tongue, gums, and inside of mouth are corrugated, and seem as if they had been partially scalded. Pulse is feeble, rapid, and irregular. Countenance contracted and pale. Skin is covered with clammy moisture.

He says that he has had no food since three o'clock this afternoon—that he was at his usual employment the whole of the day, and left it in perfect health at six o'clock—that he then came home with his companion James Macmillan, a fellow-workman, who invited him to his house, which is situated in the floor above, and there gave him a dram-glassful of liquor which Macmillan stated was whisky—that he drank the greater part of it, but refused to drink it all, as it was too strong and burning, and that immediately after this he became sick and began to vomit. I sent for Macmillan, who unhesitatingly denied that he had given anything to Ross, and repeatedly asserted that the only thing he had in his house was a smoke of tobacco. From the severe agony and the frequent vomitings of the patient interrupting his narrative, nearly an half-hour was lost before I obtained a satisfactory account of the symptoms and the relative circumstances.

I experienced no difficulty in determining that the symptoms the boy Ross presented were induced by a corrosive poison, but the point for my usefulness in treating the emergency was to discover the particular irritant. It could not have been a concentrated mineral acid, because there was neither corrosion nor whitening of the lips or inside of mouth, although upwards of two hours had elapsed since the poison was swallowed. It could not have been oxalic acid, because the patient distinctly declared that the liquor he drank was not acid, but had a very bad bitter taste. Arsenic being the poison most easily obtained was naturally suspected, but Ross stated that Macmillan poured the liquid from a bottle into a glass in his presence, that no sediment fell to the bottom, and that it had the smell of, and was colourless like whiskey. Moveover the early appearance of the symptoms of irritation (within ten minutes of swallowing the liquid) and their excessive violence indicated that the poison must have been a more soluble and a more powerful irritant than arsenic. A review of these circumstances, and a knowledge that the pain and sense of acidity in the throat preceded the derangement of the stomach, led me to conclude that the patient had swallowed a strong solution of corrosive sublimate. Acting on this opinion, I administered a few grains of the sulphate of zinc in a quantity of warm milk which was at hand, and as soon as it could be got, the white of egg. Upon leaving my patient I was followed by Macmillan, who inquired into the cause of Ross's present illness. I informed him that I had no doubt but that he had taken corrosive poison. He then asked me to accompany him to his own house, and see if I could obtain any such poison. I was there shown several bottles, one of which contained a strong spirituous solution of the bichloride of mercury. I searched for the glass (in which Ross had said that he left about a third) and found one containing a liquid, having a taste similar to the contents of the bottle. These I took with me, and delivered to the sheriff.

May 7th. Ross was removed last night to his father's house, where Mr. Hay and I visited him this morning at 5 o'clock. Has had constant vomiting of a bilious fluid containing clots of black blood, and several stools of the same description. The symptoms of inflammation throughout the whole course of the alimentary canal are excessively violent. Features collapsed and slightly bluish—cold sweats—pulse quick and scarcely perceptible. He seemed sinking so rapidly that I felt myself called upon to inform him that I considered him dying. Under this impression he repeated his former statement of the affair. I saw him the same afternoon, when the authorities took his declaration, and he then, in addition to the other symptoms, manifested a strong inclination to doze between each question. He lingered in this collapsed state until the evening of the 9th, when he rallied for a few hours, and mercurial erethysm supervened—the flow of saliva, however, always continued moderate. He afterwards assumed a typhoid appearance, and died comatose on Sabbath morning the 12th, at 5 o'clock, having survived five days and ten hours. During the whole course of his illness he passed no urine.

Dissection. The body was inspected thirty hours after death, on a warrant from the sheriff, by Dr. Spittal, in the presence of Dr. Corkindale, Mr. Hay, and myself. No examination was made of the brain. The tongue was swollen, the gums extensively ulcerated and black, and the internal coat of the gullet was much eroded from the mouth to the stomach. Externally the stomach and several parts of the intestines presented a livid appearance, and were double their natural thickness. On opening the stomach, a considerable quantity of a dark grumous fluid escaped, which was exceedingly fetid. The villous coat of this viscus was completely disorganized, and had either sloughed or was hanging in partially detached stripes. In some parts the remaining coats were three-fourths of an inch thick. The mucous membrane of the intestines was generally softened and presented numerous patches of black extravasation. The bladder was much contracted, and of the shape, though not near the size, of the unimpregnated uterus. The other organs were natural. There was no venereal disease. The symptoms during life, and the morbid appearances after death, were quite conclusive as to the cause of death, without analysis of the contents of the stomach, which at the distance of time, and owing to the frequent discharges by vomiting, could not have retained any of the poison in its primary form. I however detected, six months afterwards, in the tissue of the stomach, which had been preserved in spirit of wine, numerous minute white portions of the insoluble compound formed from the antidotes exhibited.

Macmillan, no motive for the commission of the crime being produced against him, was found guilty of culpable homicide at Glasgow in September last. No facts of medical importance were elicited on the trial. The bottle and glass formerly noticed contained a spirituous solution of the bichloride of mercury, in the proportions of one part of the salt to eight of the spirit. The strength of the solution, the quantity taken, and the empty state of the stomach, sufficiently account for the violence of the symptoms, and the collapsed state of the patient at my first visit.

W. REID.

15, Orr Street, Glasgow,
25th Nov. 1839.

SOME OBSERVATIONS UPON THE TREATMENT OF INFANTILE REMITTENT FEVER. By Dr. *M'Cabe*, Hastings.

I HAVE read in the last number of this Journal a "highly graphic" (as it is there justly named) description of the *symptoms* of the above, not unfrequent disease, from the pen or pens of Drs. Bright and Addison. Their description of this complaint cannot be too often placed before the medical public, and therefore (under the hope of indulgence from the Editors) I transcribe the passage.

" When a child from one to eight or ten years of age, has a pale, muddy, or dejected countenance, a foul tongue, a tumid belly, an irregular appetite, and a morbid state of the bowels; when it picks its nose, and is fretful and restless when awake, and whines, moans and starts in its sleep, &c."

I have had, during the last fifteen years at Hastings, a tolerably large practice in complaints of children of the abovenamed ages, and have experienced the most decided good results from under vomiting doses of ipecacuanha, given *twice* a day. Eight or ten days' perseverance in this simple treatment, I have seen followed by results beyond my most sanguine expectations.

Within the last month I was applied to in the case of a boy nine years old, labouring under most of the symptoms above detailed, with, besides, very considerable tumefaction of the glands of the neck; the boy was miserable and unhappy, and made all about him equally so, in a week he was perfectly restored to health, expressed a strong desire to return to his school.

To strengthen the constitution after these attacks, I have seen much benefit from small doses of quinine, or the nitric acid in syrup, twice or thrice a day; a form in which children may be induced to take " doctor's stuff."

TIMBER, CANVASS, CORDAGE, AND WOOLLEN PRESERVATIVE COMPANY.

SIR WILLIAM BURNETT'S PATENT.

" IT has ever been a great desideratum to all connected with the Maritime Interests of this Country to obtain some means of preserving Timber, Sails, and Cordage, from Dry Rot, Mildew, and the destructive influence of the elements. Sir William Burnett, Physician General of the Navy, whose attention in the course of his public duty has been long drawn to the various, but hitherto ineffectual means resorted to for the preservation of the Ships, Sails, and Cordage of the Royal Navy, has, at length, happily discovered a compound which unites every object sought for by the most sanguine. This discovery he has submitted, as well to the strongest individual and comparative tests by scientific gentlemen, as to the severest trials under his own personal inspection, and the result leaves no doubt of its being adequate to all the desired purposes.

The immense importance of the discovery is too obvious to require being dwelt upon here; but of the Chemical preparation now proposed to be placed before the Public, it may certainly (upon full proof) be stated that it will protect and preserve Timber, Cordage, Canvass, and similar substances from Dry Rot, Mildew, and the elements of decay arising from damp, want of atmospheric circulation, exposure to weather and sea-water; against the influence of the latter of which, it is believed, that no other specific has yet been discovered.

Experiments, the most trying in their nature, have been invariably followed by results the most satisfactory and conclusive. Specimens of prepared and unprepared Timber, and also of Canvass, Cordage, and Woollen Cloth have been subjected to the severe tests of the Fungus Pit, at Woolwich Dock Yard, and of other suitable places, for various periods, under official superintendence; and, upon after-inspection, the *prepared* were found unaffected, whilst the *unprepared* were in a state of decay.

Experiments have also been repeatedly made upon Copper and Iron Bolts with the most satisfactory results.

But the trials which Cordage, Canvass, and Woollen Cloth, prepared with this Compound have undergone, do most incontestibly prove the superiority of this process over any other in use, and establish the fact, that Salt-water so far from hastening the decay of articles prepared under this process, or from neutralizing its effects, has, on the contrary, the quality of increasing its efficacy; a property, which cannot fail to ensure encouragement commensurate with its vast importance to the Maritime Interests of the Country! whilst its general adaptation for use Ashore and Afloat must command the patronage both of the Landed and Maritime Interests, and ultimately lead to universal adoption.

This process is moreover perfectly innoxious, and cannot by possibility endanger health, either in its preparation, or in its application: All the Timbers and Ceiling of a Ship may, therefore, be impregnated with the solution without the slightest prejudicial effect to the crowded inmates of its close confines.

It purifies Bilge-water.

It is not only free from any quality calculated to promote Oxydation of Metals, but actually retards this process.

And further, this valuable preparation is *comparatively unexpensive in its use.*

In consequence of these favourable results, Sir William Burnett has been induced to take out a Patent for this his Invention; but his official duties rendering him unable, singly, to devote the time and attention requisite to bring his important discovery into operation, it has been proposed to form a Company for the purpose of carrying that object into effect."

Through the kindness of Sir William Burnett, we have had an opportunity of seeing the various specimens of wood, cordage, canvass, and woollen cloths imbued with the solution of chloride of zinc, (being the basis of Sir William's patent,) as compared with similar specimens unembued with the solution, and all equally exposed to the action of wind, weather, damp, and the causes of dry rot. The freshness, tenacity, and strength of the imbued materials, presented a remarkable contrast with those qualities—(or rather absence of those qualities)—in the same kind of materials prepared with the solution. The complete extinction of the abominable smell of bilge-water (sulphuretted hydrogen) by mixture with a few drops of the solution, was most striking. Upon the whole, we augur well of this discovery, especially as the agent is totally devoid of any noxious quality.

DR. LYNN'S CASE.

To the Editor of the Medico-Chirurgical Review..

Dispensary, Market Street, Aug, 15, 1839.

Dear Sir,—You will oblige me by inserting the following Case in the next Number of your excellent Journal.

I am, faithfully yours,
J. M. LYNN, M.D.

In the beginning of January, 1838, I was called upon to attend Mrs. S——, in her first labour. On arrival, I found that she was a person of strong muscular fibre, and somewhat advanced in life. On examination the parts felt remarkably rigid, and although the pains were very sharp, and had been increasing in severity for the preceding three hours, very little progress had been made.

After a very severe and tedious labour, she was delivered by the efforts of Nature of a female child, whose head was greatly deformed by the long continued pressure, so much so, that the lateral halves of the os frontis overlapped each other in the mesial line from the nose to the anterior fontanelle.

I was unable to replace the bones, and I knew of no author from whom to seek for advice upon the subject.

The poor infant soon shewed symptoms of cerebral disturbance, which has since degenerated into hopeless idiocy.

My object in requesting for this case a corner in your highly practical Journal, is to draw professional attention to this deformity, as a frequent cause of idiocy, and hoping that some plan might be suggested for removing this congenital malformation.

I may add, that I have since had an opportunity of examining the heads of two other idiotic infants, in both of whom I found the same osseous displacement.

OPERATION OF SCARIFYING THE CERVIX UTERI.

To the Editor of the Medico-Chirurgical Review.

Sir,—I am anxious to communicate the following operation, as I have reason to believe that superficial scarification of the cervix uteri, in inflammatory congestion of the uterus, accompanied by very severe and painful dysmenorrhœa, is nearly, if not entirely, an original suggestion—especially with regard to abstracting from it a definite quantity of blood. Dr. Ashwell, of Guy's Hospital, who saw the case with me, evinced his usual benevolent interest therein, was much pleased with the effect of the operation, and requested that it might be repeated as circumstances required. I remain, Sir, yours, respectfully,

J. L. FENNER.

15, King's Row, Pentonville,
Jan. 18th, 1840.

Mrs. ———, a widow, æt. 39, had been long afflicted with dysmenorrhœa, accompanied with inflammatory congestion of the uterus, dating its origin many years since, from a severe and protracted labour. The nervous system was so entirely implicated in this affection, that the superior and inferior extremities, as well as the body, were continually agitated by a species of chorea. She was passing through a three months' course of mercurial friction, and had found no relief from opium or any kind of narcotics. Leeches alone, applied round the *cervix* uteri, with my speculum, had palliated her sufferings, and these acted like enchantment, dissipating every symptom, and, after restless nights, producing a calm, refreshing sleep of some hours' duration. Appreciating the relief obtained from the abstraction of blood, and its tendency to remove congestion, it struck me as quite practicable, aided by my cylindrical tubular speculum (described in The Lancet, May 18, 1839, and to be seen at instrument makers,) easily to abstract, by slight scarifications of the cervix uteri, any quantity I might think desirable.

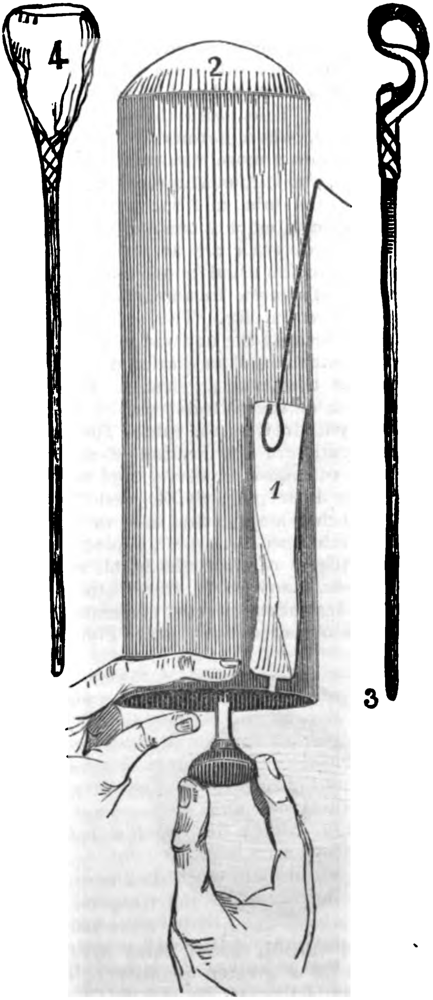
Nov. 1, 1839. After a few superficial scarifications the blood trickled freely, and, in a quarter of an hour, two ounces and a half (by weight) were obtained, and the tube withdrawn, when the bleeding immediately ceased. Precisely the same relief followed, with uninterrupted sleep, as was wont to result from the application of leeches. The patient said that the operation was so *painless* that it would not even have disturbed her sleep!

2. Two ounces and a half of blood were obtained under the same circumstances.

3. Three ounces and a half of blood.

5. The cervix uteri having many marks of scarification, the tube was with-

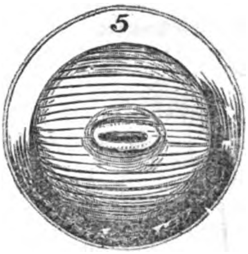
drawn a little, so as to expose the *cul de sac* of the vagina. Scarifications were made, presuming that it would bleed freely, because to that part of the vagina leeches have been applied by tubes perforated at the end with holes, and unscientifically thrust up the vagina; but by such tubes leeches cannot be duly applied to the *cervix* uteri, though they may sometimes to a portion of its side. The blood trickled freely, and in a quarter of an hour four ounces (by weight) were obtained, with the same relief as by leeches.

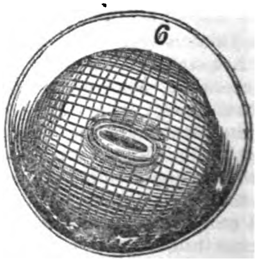


9. The patient having obtained more decided relief than on any former occasion from the application of leeches, the scarification is to be resumed as occasion may require, and the mercurial friction to be continued to the given time. The distressing soreness and ulceration of the mouth and gums from mercury are prevented, and the patient enabled to eat comfortably, by the constant use of Dr. Darling's excellent preparation of chloride of soda, obtained from Mr. Garden.

Having received numerous inquiries respecting the best mode of using my speculum, and also relative to the steps of the operation of scarification of the cervix uteri, I take this opportunity of explaining. The proper position of the patient is to recline on the back, the feet resting on the edge of the bed, I have no intention of entering into the controversy on the use or the abuse of the speculum; but I wish to say, that in my own practice, and when properly conducted, there is very little exposure. A metallic tube, of one of my three sizes, adapted to the individual case (1 inch, 1¼, 1½,) with the corresponding boxwood cylinder, *fig.* 2, fitted to the wooden handle, and introduced to the end of the tube, until it stops, is to be lubricated with some unctuous substance. The introduction of my speculum is always to be accomplished without producing any positive pain. Pressure is to be made with a gentle, semi-rotatory motion, entirely on the wooden handle, held by the thumb and two fingers of the right hand, and in the exact direction where the os uteri has previously been ascertained, by the taxis, to be situated; the thumb and index finger of the left hand, *fig.* 1, are applied to hold the tube. The box-cylinder having passed the perineal portion of the vagina, and entered the pelvic cavity, the resistance has ceased; and the wooden handle attached to the cylinder being withdrawn, the most perfect view of the os and cervix uteri is obtained, corresponding with the diameter of the tube, as in *fig.* 5, either by the natural light or that of a taper.

The tube is made of the same diameter throughout, to obtain the largest possible view, and the effect of the conical box-wood cylinder accurately fitting the tube, produces previous dilatation before the tube (its edges being thus protected by the cylinder) comes in contact with the vagina. If a minute or two are occupied in preparatory dilatation towards the perineum, a larger sized tube than otherwise may be introduced, always, it is to be understood, without producing positive pain. Thus, with the aid of the cylinder, I now use the inch-and-a-half diameter, where formerly I should not have attempted doing so; and thereby I obtain a more important view. The elastic strap of narrow Indian-rubber, wet, *fig.* 1, then securely fixes the speculum, by the small hook being attached to the tube, and the large hook to the patient's drawers or clothes. All other specula employ one hand to hold them in their situation. Thus both hands of the operator are at perfect liberty for the operation of scarifying the cervix uteri, or the usual ones connected with the injection of the uterus, the application of caustic to abrasions or ulcerations of the os and cervix, leeches around the cervix, &c. The speculum is, therefore, indispensably necessary, not merely because the unassisted sense of touch is insufficient to discover the morbid phenomena thus disclosed to the sense of sight, but is equally so as a medium for the local application of various medicaments. The state of the whole extent of the mucous coat of the vagina may be most minutely explored by slowly withdrawing the tube. The accompanying sketch illustrates the steps of the operation of scarification of the cervix uteri. The speculum being duly introduced to expose the cervix, and secured by the elastic Indian-rubber strap, *fig.* 1. The little mop, *fig.* 4, made by tying lint or wadding on a skewer of wood six inches long, is first used to remove mucus, and enable the structure to be clearly examined. A lancet, mounted on a similar stick, is held by the thumb and two fingers of the right hand, and used like a pencil, making superficial scarifications, transversely, from $\frac{1}{16}$th to the $\frac{1}{8}$th of an inch in depth. These transverse scarifications must commence from below, that the subsequent lines may not be obscured by blood. *Fig.* 5 shews the operation thus completed, which will furnish about three or four ounces of blood. But where the abstraction of a greater quantity is desirable, the incisions are crossed perpendicularly to the first, as seen in *fig.* 6, which, in a few minutes, will produce six or eight ounces of blood. The tube being kept in a depending position, the blood trickles freely through it into a saucer placed underneath; and to prevent obstruction to its flow, I remove coagula by means of a scraper made of a bit of bonnet-wire, tied to a stick, and bent, as represented in *fig.* 3.





In my own practice, this operation will supersede leeches, which on many accounts, are objectionable to both parties; in the one, exciting a degree of alarm and anxiety, and, in the other, taxing to the utmost the virtue of patience. When leeches are used, I have found that they live longer, and are rendered more useful, by putting them in the gorged state into tepid water, and keeping them in a warm situation. Practitioners will find, that a greater degree of relief is almost instantly obtained.

SOME NOTICES OF RECENT GERMAN PUBLICATIONS.

We are indebted to a kind and very able friend for the following. It arrived too late for insertion in the Review Department, and we are compelled to introduce it here. Two notices, for which we have not space at present, will be found in our next number.

DIE BEWEGUNG DER CRYSTALLINSE, von Prof. Dr. A. *Hück*. Dorfat, 1839.

THE MOTIONS OF THE CRYSTALLINE LENS, &c.

The author in this paper treats of the nature of short and long sight, founding his observations upon a series of experiments made during the course of thirteen years. He first adverts to the well known fact, that when the eye perceives a distant object distinctly, a nearer object becomes indistinct, and vice versâ. Distinct vision is limited; a healthy eye cannot see distinctly nearer than about five inches; this point the author calls the limit of distinct vision, and the healthy eye can see distinctly to the greatest distance beyond it. (Chapter 2.) The short-sighted eye can only see distinctly to a certain distance, which the author designates the far-point: between the limit-point and far-point, the short-sighted eye sees distinctly, but neither nearer than the former, nor farther than the latter. The far-sighted eye sees, on the contrary, at a distance, as distinctly as the healthy eye, only the limit-point is farther from the eye. The concurrence of both diseases is rare, but was observed in a physician who could not see distinctly nearer than fifteen inches or farther than twenty-eight. It still more rarely occurs that vision is distinct at one distance only, and indistinct at a distance either more or less remote. Farther on (chapter 3,) the author distinguishes between distinct vision and acute sight, and demonstrates by two hundred experiments on different individuals, that the acute-sighted eye sees thus acutely both at near and remote distances; so that this kind of sight does not depend upon the refracting media, but upon the sensibility of the retina. Objects disappear under the same angle of vision,—a small object, for example, at the distance of eleven inches, a larger object at the distance of three hundred feet. (chapter 4.)

There is not for a healthy,—a long,—or a short-sighted eye, one special distance of the most distinct vision, (Heroptu,) but it changes with each act of vision. (chapter 5.) By means of other experiments upon his own vision, with the eyes of animals and with glass lenses, the author explains the nature of indistinct vision, double sight through two small openings, and distinct sight through one, &c. (chapter 7.) Many phenomena of vision depending upon internal changes in the eye, as well as those observed in the short-sighted eye, are explained upon these principles. The author here takes occasion to remark that most physiologists who have treated this subject as Iscoiranus, Purkinge,

&c. were themselves short-sighted, a circumstance which led them to false conclusions.

The 2nd section treats of the probable causes of the internal changes. The 8th chapter contains a critique of the different views of various authors on this subject, viz. Simonoff, Littleton, Majendie, Serres, Jurin, Crampton. In the 9th chapter it is shewn that a change in the form of the eyeball, supposed to be induced by its mucles, is impossible, and especially that the experiment of Home is unsatisfactory. In the appendix the author remarks that it has been distinctly shewn by the recent experiments of Professor Senff that the convexity of the cornea does not change in near and remote vision. The author further remarks that the situation of the muscles is opposed to the idea of compression, and that lateral compression of the eye in a living animal is insufficient to render the figure of the image of an internal object more distinct upon the sclerotica.

Finally, the experiment of the application of henbane demonstrates the complete independence of the internal changes in the eye, of muscular action. In the 10th chapter it is shewn that dilatation of the pupil has no connexion with the other internal changes. The author principally endeavours to combat the opinion of Treviranus, and shews that his calculation is not based upon certain data, and that its consequences do not coincide with experience. In repeating the experiment with the extract of hyosciamus, the author found, what had escaped previous observers, that the pupil dilated before the power of adaptation was weakened, and contracted before the restoration of that power took place. Chapter 11 explains the impossibility of change in the form of the lens by the contraction of any part of its structure.

The 3rd section proceeds to point out a motion and a change in the convexity of the crystalline lens, as the cause of the internal changes. The author notices (chap. 12,) a convexity of the iris, as occurring in several persons during the vision of a near object. He observed the same in birds and in mammalia. That this convexity of the iris was caused by the lens, was distinctly and incontrovertibly proved after the death of these animals.

When the lens was moved forwards, in the eyes of kittens, by means of a needle introduced at the side, and moved in a lever-like manner, the image on the sclerotica of a near object was rendered more distinct. After giving the different opinions upon the mode in which the lens is moved and changed in form, (chapter 13,) he enters upon an accurate and anatomical examination of the corpus ciliare and the surrounding parts, which he illustrates by drawings. The result of his researches upon the human eye, and upon the eye of 24 different species of mammalia, but especially of the lynx and the dog, is, that the folds of the corpus ciliare form cavities which are filled with the fluid and are in connexion with the flat chief canal of Petit, and lie in such a manner between the borders of the ciliary processes, as to form a circular roll round the border of the capsule of the lens. The corpus ciliare of birds is described in 12 different species, but for the anatomical details we must refer to the work itself. In the 17th and concluding chapter the influence of the corpus ciliare upon the lens, is described in man and the mammalia, and in the appendix Professor Senff, relying upon the admeasurements given by Kraus, and the refractive powers of the eye given by Brewster, shews that the mere advancement of the lens forward, even to the cornea, would be insufficient to explain near sight, whilst a lateral compression which shortens the diameter of the lens only an eighth, brings the eye into a state to admit of distinct vision at the distance of about five inches.

INDEX.

A.
Abdomen, pathology of the veins in the 524
Abdominal parietes, sloughing of 262
Absence of tears in infants 385
Absence of the vagina, complete 531
Abscess between the pharynx and spine 582
Acetate of lead in aneurysm of the aorta 210
Acetate of lead for cholera 593
Aconite, poisoning from the extract of 239
Acute rheumatism, Dr. Corrigan on 266
Acute glanders 543
Addison's practice of medicine 136
Advantages of delay in comminuted fractures 216
Ague 137
Alcock, Mr. 601
Alderson on the effects of lead upon the system 11
Algiers, diseases prevalent at 516
Alterations of the blood, Magendie on 228
Amputation, Mr. Bransby Cooper on 257
Amputation of the penis 532
Amsterdam lunatic asylum 565
Anasarcous tumour of the scrotum, Liston on 19
Anatomical text-book 167
Anatomical subjects, preservation of 248
Anatomists manual, by Maygrier 167
Anatomy and Physiology, Cyclopædia of 81
Anatomy of the groin, Morton's 167
Anatomy of the arteries, Flood's 167
Anatomy of the breast, by Cooper 360
Aneurysm of the aorta, acetate of lead in 210
Aneurysm cured by the needle 280
Aneurysm, brachial, sloughing of a 281
Aneurysm by anastomosis 607
Aneurysm of the internal carotid 575
Aneurysm of the brachial artery, Mr. H. Johnson's case of 599
Aneurysmal tumor of the orbit 22
Aneurysms 410
Animal heat 95
Animal heat, relations of age to 105
Animal heat, influence of seasons on 109
Animal kingdom, Mr. Rymer Jones's 192
Annual reports of poor-law commissioners 113
Aorta, rupture of the 612
Aphthæ 390
Aphthous inflammation of the mouth 533
Apoplexy of the pons varolii 33
Apoplexy, treatment of 545
Appendix cæci, inflammation of the 46
Appendix cæci, perforation of the 46
Aqua-membranitis 458
Arachnitis 146
Areola, of the 366
Arm, gun-shot wound of the 608
Arnott's case of malignant disease of the tongue 14
Arsenic, poisoning by 220
Arsenic, antidotes of 225
Arsenic, detection of, in the blood 226
Arsenic, new combination of 279
Arsenic in the bones 542
Arteries, Flood's surgical anatomy of 167
Arteries of the limbs, alterations peculiar to 465
Arteritis 460
Artificial anus, operation for 539
Asphyxia of new-born infants 406
Assistant-surgeons in the navy, regulations respecting 601
Asylum at Utrecht 565
Athens, medical school at 275
Attitudes of the child 382
Auscultation 254
Axillary arteries, rupture of the 267
B.
Banks on medical etiquette 62
Barbarous operation for phymosis 156
Beddoes, anecdote of 326
Bell's history of British reptiles 192
Bilious diarrhœa 399
Billard on the diseases of infants 381
Bird's elements of natural philosophy 191
Bird, Dr. G. on the employment of elaterium 598
Bladder, inflammation of the 402
Bladder, Coulson on diseases of the 479
Bladder, spasm of the 479
Blind catheter, Mr. Stilon's 312
Blisters, M. Trousseau on 547
Blood, detection of arsenic in the 226
Blood, Magendie on the alterations of 228
Bloodletting in infants 414
Blue-pill and calomel, Dr. Sigmond on 417
Bones, arsenic in the 542
Brain, gradual development of the 411
Brain, disease of, Mr. H. J. Johnson's case of 578
Breast, Cooper's anatomy of the 360
Breast, injection of the 361
Breast, form and situation of the 362
Breast, structure of the 364
Breast, internal parts of the 367
Breast, fat of the 372

Breast, effects of gestation, &c. on the, 374
Bright on spasmodic disease 2
Bright's elements of the practice of medicine 136
British reptiles 192
British fishes, Yarrell's 192
British birds, Yarrell's 192
Brodie's, Sir B., retirement from St. George's Hospital 602
Bronchial catarrh 407
Bronchitis 407
Bronchitis, chronic 407
Bubo 157
Budd on the pathology of the spinal cord 30
Burne on tuphlo-enteritis 43
Burne, Dr. on habitual constipation 467
Burnett's, Sir William, patent 618
Burying-places of the Metropolis 59
Busk's case of aneurysmal tumor 22

C.

Cæcum, inflammation of the 534
Carcinoma uteri, Mr. Lever on 25
Carcinoma uteri, duration of 26
Carditis, Mr. Salter's case of 51
Carmichael, Mr. on the origin of malignant diseases 594
Carotid artery, internal aneurysm of 575
Cataleptic ecstacy 559
Catarrh 143
Cellular tissue, inflammation of the 535
Cerebritis 146
Cerebro-spinal apparatus 411
Cervix uteri, scarifying the 620
Ceylon moss, Previte's prepared 600
Charenton lunatic asylum 566
Children, incontinence of urine in 542
Chlorosis, Mr. Fox on 161
Chloruretted injections, utility of 239
Cholera infantum 399
Cholera, treatment of, with acetate of lead 593
Chronic hydrocephalus, pressure in 573
Civiale on the treatment of gravel 203
Civilization, Dr. Robertson on 169
Classification of infectious agents 451
Clergy, frightful state of the 285
Climate of Naples, Dr. Strange on the 307
Climate of New Zealand, Swainson on 445
Club-foot, Dr. Little on 423
College of surgeons 287
Comminuted fractures, advantages of delay in 216
Compound fractures of the cranium 571
Congenital tumor of the neck, Mr. Hawkins on 7
Congenital absence of the pericardium 29
Congenital malformations 411
Congestion of the liver 399
Congestive inflammation of the larynx 404
Constantinople lunatic asylum 569
Constipation, habitual, Dr. Burne on 467
Continued fever 141
Convulsions 413
Cooper on dislocation 241
Cooper on amputation 257
Cooper on hernia 258
Cooper, Sir A. on the anatomy of the breast 360
Copeland's dictionary of practical medicine 450
Coracoid process, fracture of the 41
Corpus luteum, structure of the 54
Corrigan on acute rheumatism 266
Corrosive sublimate, treatment of malignant ulcers with 526
Corrosive sublimate, poisoning by 615
Coryza 403
Costello's cyclopædia of surgery 450
Coulson on diseases of the bladder 479
Cranium, compound fractures of the 605
Croup 143, 404
Cubebs should be fresh powdered for use 594
Cuichunchulli plant in elephantiasis 489
Curling on congenital absence of pericardium 29
Cutaneous diseases, Dr. Willis on 493
Cyclopædiæ of anatomy & physiology, 81
Cyclopædia of practical surgery 450
Cystitis 145

D.

Davy, Sir Humphry, memoirs of 317
Death of Mr. Copland Hutchison 602
Deglutition, congestion of the organs of 392
Dextrine bandages for fractures 591
Diagnosis of stomach disorders 232
Dictionary of practical medicine 450
Digestive organs, diseases of the 390
Diseases of the heart, Dr. Hope on 73
Diseases of the eye, Mackenzie on 188
Diseases of infants 208
Diseases of infants, M. Billard on the 381
Diseases of infants 386
Diseases of the skin 387
Diseases of the digestive organs 390
Diseases arising from dentition 391
Diseases of the bladder, Mr. Coulson on 479
Diseases prevalent at Algiers 516
Dislocation of the patella outwards 278
Dislocation of the head of the radius backwards 285
Dislocations, Sir A. Cooper on 241
Dreams, theory of 329
Drunkenness in France 198
Dry gangrene, remarkable case of 28
Duration of human life 193
Duration of life, influence of sex on 193
Duration of generations 193
Duration of human life 550

E.

Earle on lunatic asyla 563
East, state of medicine in the 273
Eczema of the scalp 494

Edwards on animal heat 94
Effects of lead upon the system...... 11
Elements of medicine, Gregory's 188
Elements of natural philosophy...... 191
Encysted tumors 184
Encysted tumors of the eyelids...... 185
Encysted ganglionic swellings, treatment of 555
Enteritis 145
Enteritis, congenital 397
Epidermis, exfoliation of the....... 384
Epilepsy, cured 208
Epilepsy 549
Epilepsy after trephining 572
Evidence of medical witnesses 120
Excision of the tonsils 187
Exfoliation of the epidermis........ 384
Eye, Mackenzie on diseases of the .. 188
F.
Femur, congenital luxation of the .. 413
Fenner on scarification of the cervix uteri 620
Fergusson on yellow fever.......... 297
Fever 137
Fever, idiopathic 137
Fever, intermitting................ 137
Fever, remittent 138
Fever, infantile remittent 139
Fever, continued 141
Fever hospital, report of the 171
Fibrine, Gulliver on softening of ... 47
Fibrine, concoction of 48
Fibrine, softened, in the heart and aorta 49
Fibrine softened, in the veins 49
Fingers, tremor of the, in writing .. 518
Fleming, Dr. on abscess between the pharynx and spine 582
Flood's anatomy of the arteries 167
Fluoride of calcium, Dr. Rees on.... 251
Fœtal pulse...................... 513
Fœtus, uterine vagitus of the 514
Foote on the oil of turpentine in iritis 487
Form and situation of the breast.... 362
Fox on chlorosis.................. 161
Fracture of the coracoid process of the scapula 41
Fractures, Sir A. Cooper on 241
Fractures of the humerus.......... 244
Fractures, dextrine bandages for 591
France, drunkenness in............ 198
Frequency of herniæ at different ages 529
Frightful state of the clergy 285
G.
Gangrene of the lungs 607
Gastric indigestion................ 393
Gastritis 393
Gastro-hepatic irritation 471
Gatherings from Grave Yards 56
Gelatinous softening 394
Gendrin's theory of menstruation .. 514
Genius, sons of 322
Glanders, acute 543
Glasgow lunatic asylum............ 557
Grave yards, Mr. Walker on 56
Gravel, M. Civiale on 203
Gregory, on small-pox 17
Gregory's elements of medicine 188
Groin, Morton's anatomy of the.... 167
Guerin on spinal curvature 528
Gulliver on softening of fibrine 47
Gunshot wound of the arm 608
Guy's hospital report.............. 241
Guy on the pulse in phthisis 256
H.
Habitual constipation, Dr. Burne on, 467
Habitual constipation, neuralgia from 467
Hall on the nervous system 36
Hall on hibernation 81
Hanging, signs of death from 203
Hanwell lunatic asylum 563
Hawkins on congenital tumor of the neck 7
Head, injuries of the.............. 570
Heard on ununited fracture 262
Heart, Dr. Hope on diseases of the.. 73
Heart, colour of the 410
Hepatitis.............. 146
Hernia, Mr. Cooper on 259
Hernia................... 401
Herniæ at different ages.... 529
Herpes, treatment of............ . 451
Hibernation, Dr. M. Hall on 81
Hibernating animals, sleep of 84
Hiccup, treatment of.............. 451
Hooping-cough 408
Hope on diseases of the heart 73
Hughes on incipient phthisis........ 252
Human body, temperature of the.... 96
Human life, duration of 193
Human life, duration of 550
Hutchison, Mr. Copland, death of .. 602
Hydrocele of the neck 212
Hydrocephalus, congenital 411
Hypertrophy danger of large bloodletting in............ 451
I.
Icthyosis 499
Idiopathic fever 137
Imperforate anus 395
Impotent, out door relief of the...... 117
Incipient phthisis, Dr. Hughes on .. 252
Incontinence of urine in children.... 542
Infant brain, congestion of the...... 412
Infantile remittent fever 139
Infantile remittent fever, Dr. M'Cabe on 617
Infants, diseases of................ 208
Infants, M. Billard on the diseases of 381
Infants, colic of 396
Infants, ophthalmia of 414
Infants, viability of 415
Infectious agents, classification of .. 451
Inflammation 143

Inflammation of the mucous membranes........ 143
Inflammation of the serous membranes........ 145
Inflammation of the parenchyma of organs........ 146
Inflammation........ 412
Inflammation of the cæcum........ 534
Inflammation of the cæcum, acute .. 534
Influenza........ 143
Injuries of the head 570
Inoculation of syphilitic diseases.... 155
Insane, suicide among the........ 557
Insane, mortality of the 557
Insane, diet of the........ 560
Insanity, Dr. Millingen on........ 507
Intermitting fever 137
Intestines, spasm of the 397
Introductory lecture, Mr. H. J. Johnson's 289
Iritis, oil of turpentine in........ 487
Itinerant phrenologists 282

J.

Jaundice of infants 400
Johnson's, Mr. H. J. introductory lecture........ 289
Johnson's, Mr. H. case of disease of the brain........ 578
Jones's animal kingdom... 192
Judd's preparation of the piper cubeba 486

K.

Kennedy's medical report........ 171

L.

La Salpêtrière........ 566
Labouring classes, medical relief for.. 113
Lactation, on........ 376
Language, phrenological organ of.... 519
Larynx, congestion and inflammation of 404
Le Bicêtre 566
Lead, effects of, upon the system 11
Lead, paralysis from the absorption of 12
Lead, acetate of, in cholera 593
Lee on the structure of the corpus luteum 54
Lee on nervous disorders 577
Legal medicine, microscope in...... 201
Lepra vulgaris 493
Lever on carcinoma uteri........ 25
Limerick infirmary 605
Liston on anasarcous tumor of the scrotum........ 19
Liston's practical surgery........ 178
Little on club-foot........ 423
Lizar's anatomical text-book........ 167
Lumbrici discharged from an umbilical abscess 219
Lunatic Asylum, Glasgow, report from 557
Lunatic Asylum, York, report from 562
Lunatic asylums, Dr. Earle on...... 563
Lunatic asyla in Europe, account of, 563
Lungs, congestion of the........ 406
Lungs, œdema of the........ 408
Lungs, gangrene of the........ 607
Luxation of the femur, congenital .. 413
Lymphatic system........ 414
Lynn's, Dr. case........ 618

M.

M'Cabe on infantile remittent fever . 617
Mackenzie on diseases of the eye.... 188
Malcolmson on sloughing of abdominal parietes 262
Malignant disease of the tongue 14
Malignant ulcers, treatment of...... 526
Malignant diseases, Mr. Carmichael on the origin of 594
Mamma, injection of the........ 361
Mamma, form and situation of the .. 362
Malta, lunatic asylum at 569
Maygrier's anatomist's manual...... 167
Mayo on syphilis 504
Measles, Mr. Webster on 27
Medical etiquette, Mr. Banks on 62
Medical certificates, remuneration for 69
Medical relief for the working classes 113
Medical witnesses, evidence of...... 130
Medical school at Athens 275
Medical biography........ 317
Medicine, Bright and Addison's practice of........ 136
Medicine, Gregory's elements of 188
Medicine, state of, in the East 273
Medicine, Copeland's dictionary of .. 450
Medico-Chirurgical Transactions.... 1
Medico-parochial attendance, Yeatman on 113
Medico-botanical society, transactions of the........ 486
Memoirs of Sir Humphry Davy 317
Memoirs of celebrated physicians and surgeons........ 317
Memoirs of Dr. Physick 317
Menstruation, Gendrin's theory of .. 515
Mercury, preparations of 151
Mercury, cyanuret of........ 152
Mercury, blue pill and calomel, Dr. Sigmond on........ 417
Microscope in legal medicine........ 201
Milan, lunatic asylum at 568
Milk, influence of medicines on 380
Milky urine, case of 556
Millingen on insanity........ 507
Mitral valve, the pulse in disease of the 74
Montyon prizes 602
Morton's anatomy of the groin...... 167
Mott on the state of medicine in the East 273
Mouth, epidemic apthous inflammation of........ 533
Mucous membranes, inflammation of 143
Muguet of the mouth........ 390
Muriate of gold 154
Muscular irritability in paralytic limbs 36

N.

Naples, Dr. Strange on the climate of, 307

Natural philosophy, Bird's elements of 191
Neck, Hawkins on congenital tumor of the ... 7
Neck, hydrocele of the ... 212
Nephritis ... 148
Nervous system, Dr. Hall on the ... 36
Nervous disorders, Mr. Lee on ... 577
Neuralgia from habitual constipation, 469
New noses ... 183
New Zealand, Swainson on climate of, 445
Nostrils, foreign bodies in the ... 186

O.

Obliteration of the fœtal openings ... 409
Obstetric plates, Dr. Ramsbotham's.. 508
Obstetric auscultation ... 509
Occurrences at the small-pox hospital 17
Œdema of the lungs ... 409
Œsophagus, foreign bodies in the.... 187
Operation for artificial anus ... 539
Operations, treatment of wounds after 215
Operators and operations ... 283
Ophthalmia of infants ... 414
Orbit, aneurysmal tumor of the ... 22
Orfila on signs of death from hanging, 203
Organs of locomotion ... 413
Osseous transformation ... 465
Out-door relief of the impotent ... 117
Oxydes of iron as antidotes of arsenic, 225

P.

Paralysis from the absorption of lead, 12
Paralytic limbs, muscular irritability in 36
Paralytic limbs, influence of emotion in 39
Paralytic limbs, action of strychnine on 40
Parenchyma of organs, inflammation of 146
Parker on syphilis ... 149
Parochial medical relief ... 113
Patella, dislocation of the, outwards.. 279
Pathology of the spinal cord. By Dr. Budd ... 30
Pathology of tetanus ... 35
Pathology of the veins in the abdomen 524
Penis; amputation of the ... 532
Pennsylvania hospital ... 570
Pericarditis ... 146
Pericardium, congenital absence of the 29
Pettigrew's medical portrait gallery.. 317
Phrenitis ... 146
Phrenological organ of language ... 519
Phthisis ... 146
Phthisis, Guy on the pulse in ... 256
Phymosis, barbarous operation for .. 156
Physick, Dr. life of ... 317
Physick, Dr. anecdote of ... 353
Piper cubebæ, new preparation of ... 486
Pleuritis ... 146
Plugging the posterior nares ... 186
Pneumonia ... 146
Pneumonia ... 407
Poisoning by arsenic, treatment of .. 220
Poisoning from the extract of aconite, 239
Poisoning by sulphuric acid ... 250
Poisoning by corrosive sublimate.... 615
Pons varolli, apoplexy of the ... 33
Poor Law Amendment Act ... 113
Poor Law Commissioners, reports of.. 113
Porrigo scutulata ... 494
Porter on the cuichunchulli plant.... 489
Poverty, its evils ... 113
Practical surgery, Liston's ... 178
Practical medicine, dictionary of ... 450
Practical surgery, cyclopædia of ... 450
Practice of medicine, elements of the, 136
Preservation of anatomical subjects.. 248
Prosecution of a patient by her doctor 523
Prostate gland, Coulson on diseases of 479
Prostate gland, affections of the. ... 482
Prostate gland, acute inflammation of 482
Prostate gland, chronic inflammation of 483
Prussic acid, therapeutical properties of 549
Psoriasis annularis ... 497
Pulse, state of the, in children ... 385
Purpura, case of ... 614

R.

Radius, dislocation of the head of the, 285
Ramsbotham's obstetric plates ... 508
Randolph's life of Dr. Physick ... 317
Rees on fluoride of calcium ... 251
Regulations respecting assistant-surgeons in the Navy ... 601
Reid's cases ... 613
Remittent fever ... 138
Remuneration for medical certificates, 69
Report of the fever hospital ... 171
Report from the York lunatic asylum, 562
Reports of the poor-law commissioners 113
Respiration, imperfect establishment of 406
Retroversion of the uterus, Mr. Halpin on ... 574
Revivescence ... 92
Rheumatism of the uterus ... 238
Ricord on the treatment of syphilis .. 235
Robertson on civilization ... 169
Robertson on the teeth ... 490
Rumsey on medico-parochial attendance ... 113
Rumsey, letter from Serj. Talfourd to, 113
Rupture of the axillary artery ... 267
Rupture of the aorta ... 612

S.

Salter's case of carditis ... 51
Scabies ... 495
Scapula, fracture of the coracoid process of the ... 41
Scarifying the cervix uteri ... 620
Schneiderian membrane, inflammation of the ... 578
Scrotum, anasarcous tumor of the ... 19
Self-supporting dispensaries ... 113
Sigmond on tea ... 132
Sigmond on mercury, blue-pill, and calomel ... 417
Sketches of French surgery & surgeons 586
Skin in infants, colour of the ... 382
Sloughing of the abdominal parietes.. 262

Sloughing of a brachial aneurysm.... 281
Sloughing of the uvula from catarrh.. 586
Small-pox hospital, occurrences at the 17
Small-pox, Dr. Gregory on 17
Solly's case of dry gangrene 28
Sons of genius 322
South on fracture of coracoid process 41
Spain, state of the profession in 592
Spasm of the bladder 479
Spasmodic disease, Dr. Bright on.... 2
Spinal cord, Dr. Budd on the pathology of the 30
Spinal curvature, M. Guerin on 528
Starched bandage, use of the........ 527
Stercoral inflammation of the 538
Sterno-mastoid, removal of the 182
Stewart on the diseases of infants.... 381
Stilon on the blind catheter 312
Stomach disorders, diagnosis of...... 232
Strange on the climate of Naples 307
Structure of the corpus luteum...... 54
Strychnine, action of, on paralytic limbs 40
Subjects, supply of................ 286
Sulphuric acid, poisoning by........ 250
Supply of subjects 286
Surgeons, new regulations of the College of....................... 287
Swainson on the climate of N. Zealand 445
Syphilis, Mr. Parker on............ 149
Syphilis, Ricord on the treatment of.. 235
Syphilis, Mr. Mayo on 504
Syphilitic diseases, inoculation of.... 155
Syphilitic eruptions 387

T.

Talfourd's letter on the poor-laws.... 113
Talipes equinus, congenital 425
Talipes equinus, non-congenital 426
Talipes tarsus 426
Talipes varus 427
Talipes valgus.................... 428
Talipes calcaneus 436
Talipes, treatment of 437
Tea, Dr. Sigmond on.............. 132
Teeth, Robertson on the............ 490
Temperature of the human body 94
Temperature, influence of, on vitality, 111
Tetanus, pathology of........... .. 35
Tetanus 413
Theory of dreams 329
Therapeutical properties of blisters .. 549
Timber preservative company 618
Todd's Cyclopædia of Anatomy...... 81
Tongue, malignant disease of the 14
Tonsils, excision of the 186
Torpor from cold 93
Transactions of the Medico-botanical Society.......................... 486
Triceps, rupture of the tendon of the, 220
Trichosis 496
Trousseau on blisters... 547
Tubercular disease, Dr. Gerhard on .. 590
Tumor-follicularis 503
Tumors, encysted 185
Tuphlo-enteritis, Dr. Burne on...... 43
Tuphlo-enteritis, analysis of cases of.. 46
Turpentine, oil of, in iritis.......... 487
Typhus 456

U.

Umbilical abscess, lumbrici discharged from 219
Umbilical cord, separation of the 382
Union workhouses................ 456
Ununited fractures, Dr. Heard on.... 262
Urinary apparatus, malformations of, 402
Urine, retention of................ 402
Uterine vagitus of the fœtus 514
Uterus, rheumatism of the 238
Uterus, retroversion of 574
Utrecht lunatic asylum 565
Uvula, sloughing of, from catarrh.... 586

V.

Vaccination...................... 600
Vagina, complete absence of the 531
Valgus.......................... 428
Valves, disease of the.............. 74
Varicose veins, twisted suture for.... 272
Veins in the abdomen, pathology of.. 524
Venereal, the 149
Venice, lunatic asylum at.......... 568
Viability of infants................ 416
Vitality, influence of temperature on, 111
Vitiligo 498
Vulva, gangrene of the 400

W.

Wakefield lunatic asylum 563
Walker on grave-yards 56
Watson's clinical report............ 270
Weale's case of rupture of the aorta.. 612
Webster on measles............... 27
Wounds, dressing of............... 179
Wounds, treatment of, after operations 215
Willis on cutaneous diseases... 493
Writing, tremor of the fingers in 518

Y.

Yarrell's history of British birds 192
Yarrell's history of British fishes 192
Yeatman on medico-parochial attendance 113
Yellow fever, Dr. Fergusson on 297
York lunatic asylum, report from, 562, 564